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## TENDER FORM

### प्लाज्मा अनुसंधान संस्थान

(भारत सरकार के परमाणु ऊर्जा विभाग का सहायता प्राप्त संस्थान)

इंदीरा ब्रिज के पास, भाट, गांधीनगर - 382428, भारत

दूरभाष: 079-23962020/23962021, फ़ैक्स: 079-23962277

निमंत्रण निविदा और निविदाकारों को निर्देश करने के लिए

### Invitation to Tender and Instructions to Tenderers

The Purchase Officer, Institute for Plasma Research invites, online tenders IN **TWO PART (INR quote only)** for supply of stores as detailed in the Purchaser's Tender documents. The conditions of contract and instructions to tenderers which will govern the contract pursuant to tender are given below.

If you are in a position to quote for the supply in accordance with the requirements stated in the attached Tender Form please submit your quotation **online. The quote should be in INR only.**

Tender submitted by **fax/cable/telegram or any mode other than online will NOT be considered at all** and all such tenders will be rejected without any notice to the tenderer.

Yours faithfully,

#### **Purchase Officer-II**

For and on behalf of Director, IPR  
Institute for Plasma Research

Encl: as above.

## INSTRUCTIONS FOR ONLINE SUBMISSION

- 1) It is mandatory for all the applicants to have **class-III digital signature certificate** from any of the licensed Certifying Applicant to participate in e-tendering.
- 2) In order to participate in online e-tendering process, it is mandatory for the applicants to have **user ID & password** to get access to the website [www.tenderwizard.com/DAE](http://www.tenderwizard.com/DAE). The applicants have to get registered their firm / company with the service provider, M/s ITI Limited for user ID & password. The registration shall be done by paying an annual registration fees to M/s ITI Limited and completing other formalities as mentioned in the website, [www.tenderwizard.com/DAE](http://www.tenderwizard.com/DAE). Validity of online registration is for one year from the date of its issuance and may be renewed by paying the applicable amount. For assistance/clarifications please contact Mr. Sunil K Patel at mobile 09624981992, e-mail: [twhelpdesk426@gmail.com](mailto:twhelpdesk426@gmail.com) or [nodalofficer.et@ipr.res.in](mailto:nodalofficer.et@ipr.res.in) or All India Help line No: 91-80-40482000/[18004255048](tel:18004255048), e-mail: [daehelpdesk@tenderwizard.co.in](mailto:daehelpdesk@tenderwizard.co.in).
- 3) The applicants, who have already obtained such valid user ID and password from M/s ITI Limited, for any other tender of DAE, need not obtain fresh user ID and password for the purpose of participation in the present tender.
- 4) The services for e-tendering in IPR/DAE is provided by M/s ITI Ltd., Tender wizard Help Desk Centre, # 24, 1st Floor, Sudha Complex, Near Havanoor Circle, 3rd Stage, 4th Block, Basaveshwaranagar, Bangalore - 560079, Ph:91-80-40482000/[18004255048](tel:18004255048), Telefax: 91-80-40482114, Email: [daehelpdesk@tenderwizard.co.in](mailto:daehelpdesk@tenderwizard.co.in).
- 5) The quotations shall be submitted online in the prescribed format before the date and time as mentioned in tender document. No other mode of submission is acceptable.
- 6) On successful e-payment of tender processing fees, the applicants can download the tender documents (including Excel sheets, if any) from the e-tendering portal.
- 7) Submission of the offer document after the due date and time shall not be permitted. Time being displayed on e-Tendering portal shall be final and binding on the applicant.
- 8) Applicants are advised to submit their documents well before the due date. IPR shall not be responsible for any delay in submission of documents for any reason including server and technical problems.
- 9) **Applicants are advised to fill all the mandatory fields (coloured cells) of the excel files of the Tender. If applicant keeps any mandatory cell blank, System will not allow to close/save the file.**
- 10) In case of any problem with the submission of the offer documents, the applicant may have the assistance of helpdesk or use the help manual given on the said website or mobile and e-mail mentioned elsewhere.

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| <p><b>प्लाज्मा अनुसंधान संस्थान</b><br/> इंदीरा ब्रिज के पास, भाट, गांधीनगर - 382428<br/> गुजरात राज्य<br/> दूरभाष: 079 23962020, 23962021<br/> फैक्स: 079 23962277</p> | <p><b>INSTITUTE FOR PLASMA RESEARCH</b><br/> NEAR INDIRA BRIDGE, BHAT, GANDHINAGAR 382 428<br/> GUJARAT STATE<br/> Phone: 079 23962020, 23962021<br/> Fax: 079 23962277</p> |
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**निविदा सूचना TENDER NOTICE NO: IPR/TN/PUR/TPT/ET/18-19/39**

**दिनांकित DATED 19-11-2018**

निम्नलिखित के लिए प्रतिष्ठित और योग्य पार्टियों से ई-निविदा विधि के माध्यम से दो भाग में ऑनलाइन निविदा आमंत्रित की जाती है।

Online tender is invited in **TWO PART** through e-tendering mode from reputed and eligible parties for the following.

|  |  |
|--|--|
| मद का विवरण Item Description   | Design, fabrication, assembly, testing, inspection and supply of UHV compatible Motorized Manipulation System (Launcher) as per the specifications mentioned in the tender documents |
| निविदा प्रक्रिया शुल्क<br>Tender Processing Fee  | Tender Processing Fee of <b>Rs.1,770.00</b> should be paid through electronic mode to M/s ITI Limited.   |
| बयाना राशि जमा<br>EMD  | <b>Rs.69,000.00</b> (Copy of Demand Draft to be uploaded with the quotation, Original DD should be sent to IPR on or before the specified closing date and time)                     |
| निविदा दस्तावेज वेबसाइट पर देखने और डाउनलोड करने के लिए उपलब्ध है<br>Tender document available for view and downloading on website | <b>09.00 hrs. on 20-11-2018 to 12.55 hrs. on 2-1-2019</b>  |
| निविदा दस्तावेज के संबंध में स्पष्टीकरण<br>Clarifications regarding Tender document  | <b>09.00 hrs. on 20-11-2018 to 16.00 hrs. on 21-12-2018</b>  |
| निविदा ऑनलाइन जमा करने की अंतिम तिथि<br>Closing of online submission of tenders  | <b>2-1-2019 at 13.00 hrs.</b>  |
| भाग-I के ऑनलाइन खोलने का समय और तिथि (तकनीकी बोली)<br>Time and Date of online Opening of PART-I (Technical Bid)                    | <b>2-1-2019 at 14.30 hrs.</b>  |
| भाग-II के ऑनलाइन खोलने का समय और तिथि (मूल्य बोली)<br>Time and Date of online Opening of PART-II (Price Bid)                       | <b>Will be declared later on</b>   |

आवेदक [www.tenderwizard.com/DAE](http://www.tenderwizard.com/DAE) वेबसाइट पर 0 21-12-2018 (16:00 बजे तक) तारीख तक अपने संदेह अपलोड करके निविदा दस्तावेज के संबंध में स्पष्टीकरण (बोली से पहले) प्राप्त कर सकता है। स्पष्टीकरण उसी वेब पोर्टल [www.tenderwizard.com/DAE](http://www.tenderwizard.com/DAE) पर 26-12-2018 (17:30 बजे) तक अपलोड किए जाएंगे।

**The applicant can seek clarifications (pre-bid) regarding the tender document up to 21-12-2018 (16:00 Hrs) by uploading their queries on website [www.tenderwizard.com/DAE](http://www.tenderwizard.com/DAE) . The clarifications will be uploaded on the same web portal [www.tenderwizard.com/DAE](http://www.tenderwizard.com/DAE) by 26-12-2018 (17:30 Hrs).**

विस्तृत निविदा सूचना, योग्यता मानदंड और निविदा दस्तावेज के साथ वेबसाइट [www.tenderwizard.com/DAE](http://www.tenderwizard.com/DAE) पर निःशुल्क देखने और डाउनलोड करने के लिए उपलब्ध है। ई-निविदा प्रक्रिया में भाग लेने के लिए, उपर्युक्त ई-निविदा पोर्टल पर रजिस्टर करना अनिवार्य है और डिजिटल हस्ताक्षर प्रमाणपत्र (श्रेणी-III) होना आवश्यक है। बोलीदाता नए रजिस्ट्रेशन/टेन्डरिंग में सहायता के लिए पञ्जी हेल्पडेस्क से [daehelpdesk@tenderwizard.co.in](mailto:daehelpdesk@tenderwizard.co.in) पर संपर्क कर सकते हैं, फोन नंबर: (80)-40482000/ 9624981992/18004255048

Detailed tender notice along with Eligibility criteria and Tender Document is available on website [www.tenderwizard.com/DAE](http://www.tenderwizard.com/DAE) for free view and downloading. For participating in the e-tendering process, it is mandatory to get registered on the above e-tender portal and required to have Digital Signature Certificate (Class -III). For new registration/ tendering help, bidders may contact DAE Helpdesk at [daehelpdesk@tenderwizard.co.in](mailto:daehelpdesk@tenderwizard.co.in) Phone No: (80)-40482000/ 9624981992/ 18004255048

इस निविदा सूचना की एक प्रति संस्थान की वेबसाइट [www.ipr.res.in//purchasetenders.html](http://www.ipr.res.in//purchasetenders.html) पर भी उपलब्ध है। अधिक जानकारी के लिए, कृपया संपर्क करें: 079 23962020/2021, फ़ैक्स: 079 23962277।

A copy of this tender notice is also available on the Institute's website [www.ipr.res.in//purchasetenders.html](http://www.ipr.res.in//purchasetenders.html). For further information, please contact: 079 23962020/2021, Fax: 079 23962277.

## **TWO-PART TENDER SECTION – A**

### **Invitation to Tender and Tendering Conditions**

#### **1.0 INVITATION TO TENDER**

1.1 Institute for Plasma Research (IPR) invites online tenders for supply of Plant, Machinery, Equipment/Components to the specifications detailed in Section "C" to this tender document. The conditions of contract/purchase order which will govern the contract pursuant to the tender are as contained in Section "B" of this tender document. If you are in a position to quote for supply in accordance with the technical specifications indicated in Section "C" to this tender document and as per the conditions stipulated in this Section and Section B, please upload your offer in a manner and method specified below.

#### **2.0 MANNER AND METHOD FOR SUBMISSION OF TENDERS**

2.1 All tenderers in response to this invitation shall be submitted through online mode only. Tender submitted by **fax/cable/telegram or any mode other than online will NOT be considered at all** and all such tenders will be rejected without any notice to the tenderer.

2.1.1 **Part-I (Techno-commercial):** This part of the tender shall include/contain documents related to eligibility criteria, all technical details, technical specifications, drawings and also the commercial terms and conditions of contract for the supplies to be made and the services to be rendered **EXCLUDING ANY PRICE DETAILS THEREOF.**

**Proof for fulfillment of eligibility criteria mentioned in Annexure-A should be uploaded along with the tender. If the tender is submitted without valid documents, we shall not consider your offer. Tenders received without proof of eligibility criteria will be rejected. The offers which meets the eligibility criteria will only be considered for evaluation.**

2.1.2 **Part-II (Price):** This part should contain only the prices of the stores offered for the services to be rendered. Part-II (Price) should be furnished in accordance with the format provided by the Purchaser at Section "D" of this tender document

2.1.3 If tenderer includes prices of any nature in Part-I (Techno-commercial) of the tender such offers are liable for rejection without any notice to the tenderers.

#### **3.0 EARNEST MONEY DEPOSIT (EMD)**

3.1 The Tenderer shall submit, as part of its bid, interest free Earnest Money Deposit (EMD) for an amount as specified in the Tender Notice. In the case of foreign bidders, the EMD shall be submitted either by the principal or by the Indian agent and in the case of indigenous bidders;

the EMD shall be submitted by the manufacturer or their specifically authorized dealer/bidder. EMD shall be submitted by way of Demand Draft from **SBI/nationalized banks or any one of the scheduled banks mentioned in the bracket (Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank)** issued in favour of *"Institute for Plasma Research"* and payable at **Ahmedabad**. **Tender received without EMD will be rejected at the discretion of IPR.**

***(Copy of Demand Draft to be uploaded with the quotation, Original DD should be sent to IPR on or before the specified closing date and time)***

- 3.2 The EMD of unsuccessful Tenderer will be discharged/returned after finalizing award of the Contract/placement of Purchase order.
- 3.3 The successful Tenderers EMD shall be discharged upon the Bidder submitting the Security Deposit as specified in the contract/purchase order, without any interest.
- 3.4 **Exemption from payment of EMD:** The firms registered with DGS&D, NSIC, DPS or Micro & Small Enterprises (MSEs) which are actual producers/manufacturers of tendered items are exempted from payment of EMD provided valid registration certificate is uploaded along with the offer. In the case of foreign bidders, payment of EMD is exempted if they submit their bid directly or through their Indian agent in **foreign currency** against the tender document bought by them, so that the order can be placed directly on their Principals.
- 3.5 **The EMD may be forfeited:**
  - 3.5.1 If a Tenderer withdraws or amends or modifies or impairs or derogates its bid during the period of bid validity specified by the Bidder on the Bid Form; or
  - 3.5.2 In case of a successful tenderer, if the tenderer fails to furnish order acceptance within 15 days of the order or fails to submit the Security Deposit within 21 days from the date of contract/order.

#### **4.0 LATE/DELAYED TENDERS**

- 4.1 Uploading of the offer document after the due date and time shall not be permitted. Time being displayed on e-Tendering portal shall be final and binding on the applicant.

#### **5.0 OPENING OF TENDERS**

- 5.1 Unless otherwise pre-opened or postponed with advance intimation to the tenderers, tender will be opened in two stages on the date and time indicated on e-Tendering portal.
- 5.2 Part-I (Techno-commercial) of the tender will be opened at the first stage on the due date and time indicated for opening on the e-Tendering portal while the Part-II (Price) will be opened at the second stage after completion of the evaluation of the Techno-Commercial Part (Part-I) of the tender.
- 5.3 While all the tenderers who uploaded tenders within the due date and time will be permitted to participate in the opening of Part-I (Techno-Commercial) of the tender on the due date and time indicated on e-Tendering portal, opening of the Part-II (Price) of the tender can be attended to only by such of those tenderers whose Part-I (Techno-Commercial) of the tenders are found to be technical suitable/

acceptable to the Purchaser and to whom intimation thereof is given by the Purchaser by Email/letter or through e-Tendering portal.

- 5.4 The tenderers whose Techno-commercial part (Part-I) are found suitable/acceptable to the Purchaser, will be given seven days advance intimation by the Purchaser to enable such tenderers to depute their representative to participate in the opening of the Part-II (Price) of the tender. The technically unqualified tenderers will neither be given any intimation about the date and time of opening of Part-II (Price) of the tender nor will they be permitted to participate in the opening of the same. **Part-II (Price) of the technically disqualified tenderers will not be opened.**

## **6.0 AUTHORITY LETTER**

- 6.1 The tenderers who wish to participate in the opening of the tenders may depute their representatives to IPR on the respective due date and time as indicated in the tender notice with an authority letter addressed to the Purchase Officer which should be produced to the officers who are opening the tenders, on demand to prove the bonafides of the representative who participates in the opening of the tender. In case the representative of the tenderer fails to produce such an authority letter on behalf of the tenderer, he will be debarred from participating in the opening of the tenders.

- 6.2 The tenderers representative, who reaches the venue of the tender opening late, i.e. after the starting time specified for opening of the tenders, may not be allowed to take part in the tender opening. It should be noted that only one representative of each tenderer will be permitted to participate in the tender opening.

## **7.0 EVALUATION OF TENDER**

- 7.1 Evaluation of tender shall be based on all inclusive landed cost.

## **8.0 PURCHASER'S RIGHTS TO REJECT QUOTATION**

- 8.1 The Purchaser reserves the right to reject any quotation without assigning any reason thereof.

## **9.0 TECHNICAL CLARIFICATIONS**

- 9.1 After opening of Part-I (Techno-commercial) of the tender, if it becomes necessary for IPR to seek clarifications from the tenderers, the same will be sought for from the tenderers.

## **10.0 DATE FOR OPENING OF PART-II (PRICE):**

After completion of technical evaluation, Part-II (Price) of only technically qualified tenderers shall be opened. The date and time of opening of Part-II (Price) shall be intimated only to the technically qualified tenderers. Whose Part-I offers have been found suitable will only be permitted to participate in the opening of the Part-II (Price) of the tender.

## **11.0 HOLIDAYS**

If the date (s) specified for receipt and opening of the tenders is/are declared as holidays abruptly by the competent authority due to any administrative reasons, then the date(s) for opening of tenders will get postponed automatically to the next working day. As for instance, if the due date for receipt of tender and its opening falls on 3<sup>rd</sup> of a particular month and if the 3<sup>rd</sup> day of the month is declared as a holiday, then the



opening date of tender will stand automatically postponed to 4th day of the month at the same time. However, due date for submission of tender online will remain same as mentioned in the tender notice.

**12.0 VALIDITY OF OFFERS**

Offers shall be kept valid for acceptance for a period of 120 (One hundred twenty) days from the date of opening of Part-II (Price) of the tender. Offers with shorter validity period will be liable for rejection.

**13.0 CATALOGUES/TECHNICAL LITERATURE**

Vendor shall upload all necessary catalogues/drawings technical literature data as are considered essential for full and correct evaluation of the offers shall invariably accompany the Part-I (Techno-Commercial) of the tender. The quotations are liable to be ignored if this condition is not complied with.

**14.0 TERMS AND CONDITIONS OF THE CONTRACT**

It must be clearly understood that any contract concluded pursuant to this invitation to tender shall be governed by the General Conditions of the Contract as contained in Section "B" of this tender document. Tenderers must therefore, take special care to go through these general conditions of contract and in exceptional cases if any deviations are proposed, these must be clearly indicated in the Part-I of the tender as a separate annexure instead of merely enclosing their printed conditions of Sale. Tenders made subject to counter conditions or far too many deviations from the general conditions of contract, i.e. Section "B" of this tender document are liable to be ignored. It should also be realised that failure to bring out deviations from the General Conditions of Contract contained in Section "B" of this tender document will imply that the tenderer is willing to execute the contract as per the Purchaser's terms and conditions of contract.

**15.0 TENDERING CONDITIONS FOR BIDS**

- 15.1 The prices quoted must be FIRM and preference will be given to such tenders. In exceptional cases (e.g. items involving substantial use of raw materials susceptible to sharp fluctuations in prices) if prices quoted subject to variation it shall be on the basis of a standard 'Price Variation Formula'. The basis for calculation shall be very clearly stated. The responsibility for furnishing the documentary evidence for price variation lies with the vendor. Here again preference will be given to the tenders with a specific ceiling on escalation.
- 15.2 Prices quoted by the tenderer should include all charges involved for direct and safe-delivery of the stores to the consignee/place of delivery indicated in the tender document. If a tenderer so desires, separate lump sum charges for safe-delivery of the stores to the consignee/purchaser's site, could be furnished. However, the purchaser reserves the right to call for break-up. The purchaser will neither undertake responsibility for transit insurance nor pay for it separately.
- 15.3 In respect of tenders on Ex-works basis, in case the tenderer has not mentioned in the offer packing, forwarding and transportation charges for safe delivery up to Purchaser's site, 2% of the price quoted towards packing (in respect of both local and outstation firms), 1% of the basic price quoted towards safe delivery charges in respect of local tenderer and 3% of the basic price quoted towards safe delivery charges in

respect of outstation firm will be added for comparison of offers on safe door delivery at Purchaser's site.

- 15.4 The stores shall neither be despatched under 'owner's risk' nor consigned to 'self', but only to the consignee's name and address indicated in the Purchase order. Non-adherence to this condition shall make the contractor liable to bear all consequential penalties/expenses such as demurrage, wharf age, etc. which the Purchaser may incur.
- 15.5 The consignee will, as soon as possible, but not later than 45 days from the date of arrival of stores at destination notify the contractor of any loss or damage to the stores that may have occurred during transit to enable the contractor to repair/rectify the defects/damages or replace the goods as is appropriate, free of all charges. In case it is desired by the contractor for returning of the material to them all expenses towards transportation etc. will be borne by the supplier and also will furnish bank guarantee towards the cost of material.
- 15.6 In case an Indian supplier/Agent furnishes an offer for supply of outrightly imported stores, the price of such stores shall be quoted in Indian Rupees for delivery to the consignee's premises exclusive of import duties and on firm price basis.
- 15.6 **Conditional Discount:** In case the tenderer offers any conditional discount with regard to acceptance of their offer within a specific payment terms, delivery, quantity etc. the purchaser will not take into consideration such conditional discount while evaluating their offer.

## **16.0 SPARES AND ACCESSORIES**

- 16.1 Tenders for plant/machinery/equipment/component shall also indicate prices for essential accessories, optional accessories and spares necessary for satisfactory operation of the plant/machinery/equipment.
  - 16.1.1 for a period of two years and
  - 16.1.2 for a period of five years
- 16.2 Prices for accessories and spares shall be itemized. Tenders where only lumpsum prices are indicated are liable to be ignored. Particular care must be taken to list out each item of spare and quantity recommended and also the individual price for these items. These details should be included only in Part-II (Price) of the tender. However, a list of spares and accessories without Price should be included in Part-I (Techno-Commercial) of the tender.

## **17.0 QUANTITY**

The purchaser reserves the right to accept tenders for any quantity of his choice and the tenderer shall be bound to accept a contract for any quantity. The Purchaser also reserves the right to accept or reject lowest or any tender in full or in part without assigning any reasons.

## **18.0 STATUTORY LEVIES SUCH AS CUSTOMS DUTY, GOODS AND SERVICE TAX**

### **18.1 CUSTOMS DUTY**

- 18.1.1 The Purchaser is entitled for assessment of customs duty at the concessional rate as per Customs Notification No. 51/96-Custom dated 23.7.1996 issued by the Department of Revenue, Ministry of Finance, as amended from time to time, in respect of purchases made for the Research Institutions under the Department of Atomic Energy and the Purchaser will obtain the requisite

- certificate from the appropriate authority.
- 18.1.2 In case an Indian vendor/agent submits an offer for supply of outrightly imported stores in Indian Rupees, they should quote price for free and safe delivery of stores at destination.
- 18.1.3 Wherever, against a requirement, both indigenous as well as imported offers are received, the offers for imported stores will be evaluated on the basis of the total landed cost after loading the custom duty and other levies as may be applicable from time to time for taking purchase decision.
- 18.1.4 High Seas sale will not be considered.

**18.2 FLUCTUATION IN THE CUSTOMS DUTY**

- 18.2.1 Unless otherwise specifically agreed to in terms of the Contract, the purchaser shall not be liable for any claim on account of fresh imposition and /or increase in Customs Duty on raw materials and/or components used directly in the manufacture of the contracted stores, taking place during the pendency of the contract.

- 18.3 Offers from Indian Agents on behalf of foreign suppliers:** In case the tender is submitted by an Indian supplier/Indian agent on behalf of their foreign supplier/ principals, following documents should be submitted with the tender, failing which, their offer is liable to be ignored.

- 18.3.1 Photocopy of the Agency Agreement between the Principals and the Indian Agent showing the percentage or the quantum of agency commission payable and a Letter of Authority from the Principals authorizing the Indian Agents to submit the tender on their behalf.
- 18.3.2 The type and nature of after sales services to be rendered by the Indian Agent.
- 18.3.3 Both Indian Agent and Principal/OEM cannot bid simultaneously for the same item/product in the same tender.
- 18.3.4 The Indian Agents are allowed to quote on behalf of only one foreign Principal/ Supplier against this tender.
- 18.3.5 Copy of Registration Certificate with DGS&D or DPS.

**18.4 GOODS AND SERVICE TAX**

- 18.4.1 GOODS AND SERVICE TAX where legally leviable as per relevant HSN code will be admitted and reimbursed at the rate applicable during original delivery date.
- 18.4.2 GOODS AND SERVICE TAX intended to be claimed should be distinctly shown separately along with the price quoted. Where this is not done, no claim for GOODS AND SERVICE TAX will be admitted at any later stage and on any ground whatsoever.
- 18.4.3 The Purchaser is entitled for assessment of GST at the Concessional rate as per Notifications issued by the Government, as amended from time to time, in respect of purchases made for the Research and Development applications under the Department of Atomic Energy and other R&D units.
- 18.4.4 **GST for R&D Unit:** Goods and Service Tax (GST) wherever applicable will be paid extra at actual during the delivery period stipulated in the Purchase order. In terms of notifications issued by the Central Government and State Governments, R&D units of Department of Atomic Energy are entitled for IGST @ 5% or CGST @ 2.5% and SGST @ 2.5% as applicable for stores covered under the Purchase Order.

- 18.4.5 **GST for Services:** As applicable. Specify the SAC codes wherever services are involved.
- 18.4.6 It would be the responsibility of the contractor to ensure that relevant certificate is obtained from the Purchaser before effecting the delivery of goods ordered failing which the excess tax paid by the contractor shall not be reimbursed by the Purchaser.
- 18.4.7 When GOODS AND SERVICE TAX is claimed as extra by the vendor in general and on packing charges in particular, the following certificates should be submitted by the vendor to the Paying Authority on the bills itself.
- 18.4.8 Certified that the goods and packing charges on which GOODS AND SERVICE TAX has been charged have not been exempted under the Central Sales Tax or the State Sales Tax Act or the rules made there-under and the amount charged on account of GST on these goods and packing charges are not more than what is payable under the provision of relevant Act or the rules there-under.
- 18.4.9 Certified further that we have actually paid GOODS AND SERVICE TAX and are being assessed to GST on packing charges and also that where there are statutory exemption under the Relevant Act/Law of the State Government concerned, we have availed ourselves of it and certified non-availability of such a provision for GST on packing charges wherever claimed.
- 18.4.10 Certified further in respect of amount claimed into the bill no claim is pending for refund/or admissible. Certified that in the event of our getting refund in whole or in part of the element of GOODS AND SERVICE TAX on packing charges claimed from Government, we shall pass on the benefit to the Purchaser by remitting to Government the amount equivalent to the amount of refund obtained by us.
- 18.4.11 Further certified that we abide by the all the provisions of Acts of Governemnt and rules made thereunder especially regarding anti-profiteering provisions.
- 18.4.12 Certified further that we (our Branch or agent) \_\_\_\_\_  
 \_\_\_\_\_  
 (address) are registered as dealers in the State of \_\_\_\_\_  
 under Local Regn. No. \_\_\_\_\_ and in the State of \_\_\_\_\_  
 under Central Regn. No. \_\_\_\_\_ for the  
 purpose of State/Central Tax.  
 (Stamp & Signature of the Vendor)
- 18.4.13 The vendor shall solely be responsible for declaration of Goods and Service Tax made in his invoice and shall indemnify the purchaser from any claim or its liability from concerned authorities at any stage.
- 18.4.14 Certificate with each bill to the effect that no refund has been obtained in respect of the reimbursement of GST made to vendor during three months immediately preceding the date of the claim covered by the relevant bill.
- 18.4.15 AN UNDERTAKING to the effect that in case any refund of GST is granted to the vendor by concerned authorities in respect of stores supplied under the contract, they shall pass on the credit to the purchaser immediately alongwith a certificate from their Director/Manager/Proprietor/ Accountant to the effect that the credit so passed on relates to the GST originally paid for the stores

supplied under the contract. In case of their failure to do so within 10 days of the issue of the refund orders to them by the Authorities, the purchaser would be empowered to deduct a sum equivalent to the amount refunded by the authorities without any further reference to the vendor, from any of their outstanding bills against this or any other pending Government Contracts and that no dispute on this account would be raised by the vendor.

18.4.16 Statutory Deductions, as applicable shall be made from the supplier's bill.

#### 18.5 **DEDUCTION OF TAX AT SOURCE (TDS)**

As per Government of India rules, it is mandatory that income tax shall be deducted at source at applicable rates as per relevant act, rules and notifications issued by the government from time to time.

18.5.1 **In case of Indigenous Vendors** (Indian Suppliers who provide indigenous products and services, Indian subsidiaries with permanent establishment in India who supply imported goods and services and paid in Indian currency only): Tax deducted at source will be applicable under Section 194-C for carrying out any work (including supply of labour for carrying out any work) in pursuance of contract as per Income Tax Act 1961. In case of technical or professional services, TDS will be applicable as per under Section 194-J of Income Tax Act 1961.

18.5.2 **In case of Foreign Vendors** (Foreign Suppliers who provide goods from abroad paid in foreign currency and providing technical services by Indian subsidiary paid in Indian currency): The TDS is applicable where services are rendered in India directly or through their Indian counter part against foreign Purchase order / Contract as per the provision of under Section 195 of Income Tax act of India. Wherever DTAA (Double Taxation Avoidance Agreement) agreement exists between India and the supplier country the provisions of the agreement shall be applicable. For getting benefit of DTAA (Double Taxation Avoidance Agreement), the following documents must be submitted, otherwise full TDS will be deducted.

- a) No Permanent Establishment in India certificate
- b) Tax Residency Certificate (TRC) issued by Tax authorities of their country
- c) Form 10F if TRC does not contain required details
- d) PAN (Permanent Account Number) details issued by Indian Income Tax Authority

#### **Important Note:**

- a) Where bifurcation is inappropriate and unacceptable for supply of material and providing services the purchase order / contract will be treated as **Composite Contract** and TDS will be deducted on whole contract / purchase order value as per applicable rate.
- b) TDS or any other leviable taxes or duties, if applicable, shall be deducted recovered from the Supplier's bill and necessary certificate will be issued to the supplier.

- c) Details on relevant sections of Income Tax Act and DTAA treaties can be obtained from [https://www.incometaxindia.gov.in/ Pages/acts/income-tax-act.aspx](https://www.incometaxindia.gov.in/Pages/acts/income-tax-act.aspx).

**19.0 FLUCTUATION IN STATUTORY LEVIES**

Unless otherwise specifically agreed to in terms of the Contract, the purchaser shall not be liable for any claim on account of fresh imposition and/or increase in statutory levies on raw materials and/or components used directly in the manufacture of the contracted stores, taking place during the pendency of the contract. However, any reduction in statutory levies on these raw materials and/or components must be passed on to the Purchaser.

**20.0 SAMPLES/PROTOTYPES**

If any called for shall be submitted free of all charges by the Tenderer and the Purchaser shall not be responsible for any loss or damage thereof for any reason whatsoever. In the event of non-acceptance of the tender, the tenderer will have to make arrangements to remove/collect the sample/prototypes at his own expenses.

**21.0 QUANTITIES**

Quantities indicated are approximate only and one or more of the items of the stores tendered, or a portion of any one or more of the items of such stores may be accepted and the tenderer notwithstanding that his Tender has not been accepted in whole shall be bound to supply contracted quantity to the Purchaser.

**22.0 SUBMISSION OF DRAWINGS**

The tenderer shall furnish all drawings pertaining to the plant/machinery/ equipment/component to the Purchaser along with the tender for correct understanding and appreciation of the tender in quadruplicate. Besides, tenderers should also furnish general arrangement, schematic and such other drawings prescribed by the Purchaser within 4 weeks from the date of receipt of a Purchase Order for approval. Such drawings should be furnished along with Part-I (Techno-Commercial) of the tender. Tenderer's drawing will form part of the purchase order/contract only after these are approved by the Purchaser.

**23.0 INSTALLATION AND COMMISSIONING**

- 23.1 Wherever, the purchaser's invitation to tender calls for installation and commissioning or supervision of installation and commissioning of the instrument/equipment by the tenderer, the tenderer must clearly and separately quote the prices for the supply of the stores and the charges and the terms for installation and commissioning or supervision of installation and commissioning, as the case may be. The charges towards installation and commissioning should not be included in the price of the stores.
- 23.2 In respect of contracts involving installation and commissioning by vendors including overseas vendors where identifiable charges for the same has been quoted by the vendor, he shall bear the Income-tax liability as per the rates prevailing at the time of undertaking the job in accordance with the Income-tax Act in force in India.

23.3 Wherever, the scope of the contract includes installation and commissioning, it shall be the sole responsibility of the contractor to undertake the installation and commissioning as and when called for, by the Purchaser.

24.0 **INSPECTION**

24.1 The Contractor shall be responsible for and perform all inspection and testing required in accordance with the contract/purchase order and specifications included therewith.

24.2 The Purchaser may at his option depute his representative for inspection of the stores to be supplied under the contract or authorize and nominate a Quality Surveillance Agency of his choice for the purpose hereinafter called, in either case, the inspection.

24.3 The supplier shall give notice of readiness for inspection to the Purchaser so that the Inspector can be present at the requisite time. In such an event delivery shall not be effected until an authorization or shipping release is obtained from the Purchaser.

24.4 The contractor shall allow reasonable facility and free access to his work/factory and records to the inspector for the purpose of inspection or for ascertaining the progress of delivery under the contract.

25.0 **FACTORY REGISTRATION/SHOP & ESTABLISHMENT CERTIFICATE**

The tenderers shall upload the copy of the Factory Registration/License or Shop & Establishment Certificate as applicable, along with the tender, failing which the tenders are liable for rejection.

26.0 **PRODUCTS WITH ISI MARK**

26.1 Products with ISI mark will be preferred.

26.2 In respect of following categories of item, Purchaser will consider offers for products with ISI mark only:

- Fire Extinguisher
- Building Material
- PVC Pipes & fittings
- Agricultural Implements & sprayers
- Medical instruments such as syringes, needles, BP apparatus etc.

27.0 **SHOP/FACTORY EVALUATION, QUALITY SURVEILLANCE /INSPECTION AND SUBMISSION OF PROGRESS REPORTS**

27.1 The Purchaser or his technical authorities may at his option and prior to evaluation of the tender depute his Inspector or any quality surveillance Agency of his choice to the factory/workshop of the tenderer to assess and establish the manufacturing capability etc. of the tenderer. Similarly, the Purchaser may also depute his inspector/Quality Surveillance agency of his choice for inspection of the plant/machinery/equipment/component during the various stages of manufacture in such an event the tenderer/contractor shall:-

27.1.1 Allow reasonable facility and free access to his factory/work/ records to the Inspector for the purpose of inspection or for ascertaining the progress of manufacture and delivery.

27.1.2 Provide the drawings, toolings, gauges, instruments etc. required for carrying out the inspection work.

- 27.1.3 Produce an inspection plan to the Purchaser's satisfaction notifying him when check points on the plan are imminent.
- 27.1.4 Not supply or deliver the plant/machinery/equipment/ component unless and until a Shipping Release or an authorisation for despatch is obtained in a format provided by the Purchaser. Failure to comply with this instruction will not only result in withholding of the payment to the contractor/supplier, but also hold the tenderer/contractor liable for payment of compensation to the Purchaser due to delay in clearance of the Equipment/plant/machinery/ component from the carriers.

**28.0 INSTRUCTION MANUAL**

In respect of plant/ machinery/ equipment/ instrument/ apparatus, where instruction/ operation manual is normally necessary to enable the user to put the plant/machinery/equipment/instrument/ apparatus to proper use, the Contractor shall furnish such an instruction/operation manual specific to the stores being supplied along with the plant/machinery/equipment/instrument/apparatus. The Contractor shall clearly specify in the offer about his readiness to supply instruction/operation manual

**29.0 PACKING**

- 29.1 Tenderers shall note that packing for shipment shall be in accordance with the instructions outlined in this tender document, each package shall be limited to the size and weights that are permissible under the existing Air and Sea limitations. Even when no packing specification is included in the invitation to tender, it will be Supplier's responsibility to provide appropriate packing depending upon the nature of the supply and the transportation and handling hazards.
- 29.2 The equipment shall be so packed and protected as not to suffer deterioration, damage or breakage during shipment and storage in a tropical climate.
- 29.3 Each package shall be properly labeled to indicate the type and quantity of material it contains, the purchase order number, its dimensions and weight and any other necessary data to identify the equipment and relate it to contract.

**30.0 DEVIATIONS TO PURCHASER'S SPECIFICATIONS AND CONDITIONS OF CONTRACT**

- 30.1 If any deviation or substitution from the technical specifications contained in Section "C" to this tender document is involved, such details should be clearly indicated in Part-I (Techno-Commercial) and should be added as an annexure to Part-I (Techno-commercial) of the tender as otherwise it shall be an admission on the part of the tenderer that he will supply the equipment as specified by the Purchaser. Similarly, deviations to the Purchaser's General Conditions of Contract/Special Conditions of Contract contained in Section "B" of this tender document shall be indicated by the tenderer in another annexure to Part-I (Techno-commercial) of the tenderer.



30.2 Part-II (Price) should be furnished in accordance with the format provided by the Purchaser at Section “D” of this tender document.

**31.0 DELIVERY**

Tenderer should note that no tender will be considered by the Purchaser unless the Tenderer can meet the delivery schedule specified by the Purchaser. All equipments/machinery/plant/ component covered by this tender document should be supplied on or before \_\_\_\_\_ or \_\_\_\_\_ month from the date of approval of drawings or \_\_\_\_ month from the date of receipt of free issue materials. The prices quoted by the tenderer should include all charges involved for direct and safe delivery of the items by Road to the project site of the Purchaser. If a tenderer so desires/separate lumpsum charges for transportation and safe delivery to Purchaser’s site could be furnished. Purchaser will neither undertake responsibility for transit insurance nor pay for it separately. No other, delivery term will be accepted by the Purchaser.

**32.0 ACCEPTANCE OF TENDERS**

32.1 The purchaser shall be under no obligation to accept the lowest or any other tender and shall be entitled to accept or reject any tender in part or full without assigning any reasons whatsoever.

32.2 Acceptance of tenders by the Purchaser will be sent by fax, E-mail, letter etc. within the validity date of the tender and such a fax, letter etc. would then be followed by a formal purchase order/contract. The tenderer whose offer is accepted will proceed with the execution of the contract on the basis of such advance acceptance of tenders without waiting for a formal purchase order/contract, and will be responsible to seek and obtain whatever clarifications that are necessary from the Purchaser to proceed with the manufacture without waiting for a formal purchase order/contract and delivery period will be reckoned from the date of the Letter of Intent.

**33.0 SETTLEMENT OF COMMERCIAL TERMS AND CONDITIONS OF CONTRACT**

In case the commercial terms and conditions of sale/contract stipulated in Part-I (Techno-commercial) of the tender submitted by the tenderer are at variance with the Purchaser’s General Conditions of all Contracts/Special Conditions of Contract stipulated in Section “B” of this tender document, the Purchase Officer will settle the commercial terms and conditions of contract with the tenderers chosen for award of the contract by holding discussions with them OR by sending Fax/Letter/E-mail etc. In case the concerned tenderer to whom an intimation thereof is given does not respond/fail to respond to communication sent by the Purchaser within the date specified, his tender is liable for rejection at the discretion of Director, IPR and no complaints whatsoever will be entertained from the tenderer for rejection of this tender. The tenderers should not discuss with the technical authorities/user department any of the commercial terms and conditions of contract and any agreement/understanding reached between the tenderer and the technical authorities will not be valid and binding.

34.0 **COMPLIANCE WITH THE SECURITY REQUIREMENTS OF THE PURCHASER**

The Contractor shall strictly comply with the Security Rules and Regulations of the Purchaser in force and shall complete the required formalities including verification from Police and any other authority and obtain necessary prior permission for entry into the Purchasers premises, wherever authorized by the Purchaser.

35.0 **PAST PERFORMANCE**

In case the past performance of the tenderer is not found to be satisfactory with regard to quality, delivery, warranty obligation and non-fulfillment of terms and conditions of the contract, their offer is liable to be rejected by the purchaser.

36.0 **CAPACITY & FINANCIAL STANDING**

In case it is found that the tenderer does not possess the requisite infrastructure, capacity, capability and their financial standing is not satisfactory, such tender is liable to be rejected by the Purchaser.

37.0 **CONFIDENTIALITY**

Drawings, specifications, prototypes, samples or any other correspondence/details/information provided by the Purchaser relating to the tender or the contract shall be kept confidential by the contractor, and should not be disclosed or passed on to any other person/firm without the prior written consent of the purchaser. This clause shall apply to the sub-contractors, consultants, advisers or the employees engaged by the Contractor.

38.0 **RESTRICTED INFORMATION CATEGORIES UNDER SECTION 18 OF THE ATOMIC ENERGY ACT, 1962 AND OFFICIAL SECRETS UNDER SECTION 5 OF THE OFFICIAL SECRETS ACT, 1923**

Any contravention of the above mentioned provisions by the contractor, sub-contractor, consultant, adviser or the employees of the contractor will invite penal consequences under the aforesaid legislation.

39.0 **PROHIBITION AGAINST USE OF THE NAME OF ANY INSTITUTION OF DEPARTMENT OF ATOMIC ENERGY WITHOUT PERMISSION FOR PUBLICITY PURPOSES**

The Contractor or sub-contractor, consultant, adviser or the employees engaged by the contractor shall not use the name of any Institution of Department of Atomic Energy for any publicity purpose through any public media like Press, Radio, TV or Internet without the prior written approval of the Purchaser.

40.0 **FREE ISSUE MATERIAL** *(This clause shall apply only to contracts for supply of fabricated equipment with purchaser's Free Issue Materials (FIM)).*

40.1 Wherever contracts envisage supply of Free Issue Material (FIM) by the Purchaser to the contractor, such Free Issue Material shall be safeguarded by an insurance policy to be provided by the Contractor at his own cost for the full value of such materials and the insurance policy shall cover, the following risks specifically and shall be valid for six months beyond the contractual delivery date.

- **Risk to be covered:** Any loss or damage to the Purchaser's material due to fire, theft, riot, burglary, strike, civil commotion, terrorist act, natural calamities etc. and any loss or damage arising out of any other causes such as other materials falling on purchaser's materials.
- **Insured by:** (Name of the Contractor)
- **Beneficiary:** Institute for Plasma Research, Near Indira Bridge, Bhat, Gandhinagar-382428.
- **Amount for which insurance policy to be furnished:** The amount will be indicated in the respective contract.

Free Issue Material (FIM) will be issued to the Contractor only after receipt of the Insurance Policy from the Contractor. The contractor shall arrange collection of the FIM from the Purchaser's premises and safe transportation of the same to his premises at his risk and cost.

Notwithstanding the insurance cover taken out by the Contractor as above, the contractor shall indemnify the purchaser and keep the Purchaser indemnified to the extent of the value of free issue materials to be issued till such time the entire contract is executed and proper account for the FIM is rendered and the left over/surplus and scrap items are returned to the Purchaser. The contractor shall not utilize the Purchaser's free issue materials for any job other than the one contracted out in this case and also not indulge in any act, commission or negligence which will cause/result in any loss/damage to the Purchaser and in which case, the Contractor shall be liable to the Purchaser to pay compensation to the full extent of damage/loss. The Contractor shall be responsible for the safety of the free issue materials after these are received by them and all through the period during which the materials remain in their possession/control/ custody. The free issue materials on receipt at the Contractor's works shall be inspected by them for ensuring safe and correct receipt of the material. The Contractor shall report the discrepancies, if any, to the Purchaser within 5 days from the date of receipt of the material. The Contractor shall take all necessary precautions against any loss, deterioration, damage or destruction of the FIM from whatever cause arising whilst the said materials remain in their possession/custody or control. The FIM shall be inspected periodically at regular intervals by the Purchaser for ensuring safe preservation and storage. The contractor shall also not mix up the FIM with any other goods and shall render true and proper account of the materials actually used and return balance remaining unused material on hand and scrap along with final product and if it is not possible within a period of one month from the date of delivery of the final product covered by this purchase order. The Contractor shall also indemnify the Purchaser to compensate the difference in cost between the actual cost of the FIM lost/damaged and the claim settled to the Purchaser by the insurance company. The decision of the Director, Institute for Plasma Research, as to whether the Contractor has caused any loss, destruction, damage or deterioration of the FIM while in his possession, custody or control from

whatever cause arising and also on the quantum of damage suffered by the government, shall be final and binding upon the Contractor.

**41.0 EXPORT LICENCE/EXPORT PERMISSION**

41.1 It is entirely the responsibility of the vendors who are quoting for materials of foreign origin to ensure obtaining export permission/licence/authorisation as required from the respective Government before arranging shipment. This Department would not accept post supply inspection by any agency/authority of any foreign country. It is, therefore, necessary that the vendors offering materials from foreign countries shall have thorough knowledge of export contract regulations in vogue in those countries.

41.2 The vendors shall indemnify the purchaser against any consequences in respect of any end-use declaration they/their overseas Principals may furnish to the government/government agencies of the country of origin of the materials, while seeking export permission/licence. Post supply inspection, contrary to the terms and conditions of purchaser's contract shall be deemed to be null and void.

**42.0 END USE CERTIFICATE**

42.1 Whenever an End-use Certificate is desired by the vendor, the same shall be clearly mentioned in the quotation and the purchaser shall provide an Enduser Certificate as per the format given below. The Purchaser will not provide any other document/declaration in this regard.

**END USER STATEMENT:**

*"We hereby certify that the item/s i.e. \_\_\_\_\_, being procured from M/s \_\_\_\_\_ against our Purchase Order No. \_\_\_\_\_ dated \_\_\_\_\_ will be used for \_\_\_\_\_. We also certify that the item/s will not be used in designing, developing, fabricating or testing of any chemical, biological, nuclear, or weapons of mass destruction or activities related to it. It is further certified that we will not re-export the Item/s prior to obtaining permission from the concerned authorities as may be required".*

**43.0 COUNTRY OF ORIGIN**

43.1 Wherever the tenders are for imported stores, the Country of Origin of the stores must be clearly specified in the quotation.

**44.0 LIABILITY**

44.1 Vendors shall be liable for any damage to the purchaser or any third party out of any patent or latent defect in the goods supplied by him or sub-standard services rendered by him.

**45.0 RIGHT TO REJECT QUOTATION**

45.1 The Purchaser reserves the right to reject any quotation, which is not in conformity with the above instructions.

45.2 The Purchaser also reserve the right to reject any quotation without assigning any reason whatsoever.

46.0 **PRICE / PURCHASE PREFERENCE**

Purchase/Price preference to industries will be given as per the policy of the Government of India in force at the time of evaluation provided their offer is in compliance with the conditions of the policy.

47.0 **PERMANENT ACCOUNT NUMBER (PAN)**

47.1 Vendors are required to upload a true copy of the PAN Card/Letter issued by the Income-tax Department, failing which the tenders are liable to be rejected.

48.0 MSE bidders should declare their UAM (Udyog Aadhar Memorandum) number on CPPP portal to avail benefits as per Public Procurement Policy for MSE's order 2012.

49.0 The bidder shall not be under a declaration of ineligibility for corrupt or fraudulent practices or blacklisted with any of the Government Agencies.

Any additional conditions attached to this Invitation to Tender shall also form part of the contract conditions.

**SECTION 'B'**

**GENERAL CONDITIONS OF  
CONTRACT**

**INSTITUTE FOR PLASMA RESESARCH  
PURCHASE SECTION**

**GENERAL CONDITIONS OF ALL  
CONTRACT**

**&**

**SPECIAL CONDITIONS OF CONTRACT  
GOVERNING SUPPLIES OF  
PLANT AND MACNHINERY**

## **GENERAL CONDITIONS OF CONTRACT**

### **1. DEFINITIONS**

- 1.1 The term 'PURCHASER' means the Institute for Plasma Research or its successors or assigns.
- 1.2 The term 'PARTICULARS' means the following:
  - 1.2.1 Specification
  - 1.2.2 Drawing
  - 1.2.3 Sealed pattern denoting a pattern sealed and signed by the Inspector
  - 1.2.4 Proprietary make denoting the produce of an individual firm
  - 1.2.5 Any other details governing the construction manufacture and/or supply as existing for the contract.
- 1.3 The term 'CONTRACTOR' or 'SUPPLIER' means, firm or company with whom or with which the order for the supply of stores is placed and shall be deemed to include the Contractors/Successors (approved by the Purchaser), representatives, heirs, executors and administrators unless excluded by the contract.
- 1.4 The term 'CONTRACT' or 'PURCHASE ORDER' means and comprises of a Letter or Email or ink signed or digitally signed document conveying acceptance of Contractor's offer and invitation to tender, tender containing offer, advance acceptance of offer, general and special conditions of contract specified in the acceptance of offer and any subsequent amendments/alterations thereto made on the basis of mutual agreement.
- 1.5 The term 'STORES' or 'MATERIAL' means, the goods specified in the contract/purchase order which the contractor has agreed to supply under the contract.
- 1.6 The term 'SUB-CONTRACTOR' or 'SUB-SUPPLIER' means any contractor or supplier engaged by the contractor or the supplier with the prior approval of the Purchaser in relation to the contract/purchase order.
- 1.7 The term 'INSPECTOR' or 'QUALITY SURVEYOR' means any person nominated and deputed by the purchaser or their appointed Consultants or Quality Surveillance Agency or any other person from time to time authorized by the Purchaser to act as his representative for the purpose of inspection of stores under the contract/purchase order.

### **2. AUTHORITY OF PERSON SIGNING THE CONTRACT ON BEHALF OF THE CONTRACTOR**

The person signing the contract or the purchase order or any other document in respect of the contract or purchase order on behalf of the contractor shall be deemed to warrant that he has the authority to bind the contractor.



**3. SUBLETTING OF CONTRACT OR BILLS OR ANY BENEFIT ACCRUING THEREFROM**

- 3.1 The Contractor shall not sublet, transfer or assign the Contract or any part thereof or bills or any other benefits, accruing therefrom or under the contract without the prior written consent of the Purchaser (All Sub-contractors are required to be appraised and approved by the Purchaser before placement of orders by the Contractor/Supplier). However, such consent shall not be unreasonably withheld by the Purchaser, if such stores are not normally manufactured by the Contractor, such assignment or subletting shall not relieve the Contractor from any contractual obligation or responsibility under the Contract.
- 3.2 Any breach of this condition shall entitle the Purchaser to cancel the Contract or any part thereof and to purchase from other sources at the risk and cost of the Contractor and shall recover from the Contractor damages arising from such cancellations.
- 3.3 In case the Contractor sublets, transfers or assigns any part of the Contract with the prior written consent of the Purchaser, all payments to the Sub-Contractor shall be the responsibility of the Contractor and any requests from such sub-Contractor shall not be entertained by the Purchaser.

**4. SECURITY DEPOSIT**

- 4.1 On acceptance of tender, the Contractor shall at the option of the Purchaser and within the period specified by him, submit a Bank Guarantee from SBI or any one of the nationalized banks or reputed private banks, viz. AXIS Bank, ICICI Bank, IDBI Bank and HDFC Bank towards Security Deposit not exceeding 10% (ten percent) of the tendered value of the contract/purchase order valid till at least 2 months beyond the acceptance date of the material, as the Purchaser shall specify.
- 4.2 If the Contractor is called upon by the Purchaser to submit Security Deposit and the contractor fails to provide the same within the period specified such failure shall constitute a breach of the Contract and the Purchaser shall be entitled to make other arrangements for the repurchase of the stores contracted for at the risk and expenses of the Contractor in terms of clause 9.2.4 hereof and/or recover from the Contractor damages arising from such cancellation. No claim shall lie against the purchaser either in respect of interest if any due on Security Deposit or depreciation in value.
- 4.3 Offers wherein contractors declined to submit Security Deposit are liable to be rejected.

**5. DRAWINGS & SPECIFICATIONS**

- 5.1 The drawings and specifications are intended to be complementary and to provide for an comprise everything necessary for the completion of supply. Any material shown on the drawing even if not particularly described in specifications or vice versa is to be supplied by the Contractor as if it were both shown and specified.

- 5.2 Should any discrepancy be noted in the drawings and/or specifications and should any interpretation of the same be required, the matter shall be referred to the Purchaser for clarification which shall be binding upon the contractor. Otherwise, the contractor shall assume responsibility for the interpretation of the drawings and specifications including interpretation by his sub-contractors.
- 5.3 Should any difference or dispute arise with regard to the true intent and meaning of drawings or specification or should any portion of the same be obscure or capable of more than one interpretation, the same shall be decided by the Purchaser whose decision shall be final.
- 5.4 All lettering on the drawings is to be considered as part of the specification and contract. In all cases figured dimensions are to be followed rather than those indicated by scale. Large scale drawings will take precedence over small scale drawings.
- 5.5 The contractor's drawings shall, when approved by the Purchaser, be deemed to be included in the list of drawings which form part of the contract. The Contractor shall not proceed with fabrication until all drawings associated therewith have been duly approved by the Purchaser.
- 5.6 The Contractor shall be responsible for and shall pay for any alterations of the stores and shall indemnify the Purchaser for any consequential expenditure incurred by the Purchaser due to any discrepancies, errors, omissions in the drawings or other particulars supplied by him whether such drawings or specifications have been approved by the Purchaser or not, provided that such discrepancies, errors or omissions be not due to inaccurate information or specifications furnished to the contractor on behalf of the Purchaser.
- 5.7 **General Warranty**
- 5.7.1 The stores supplied by the contractor under the contract shall be of best quality and workmanship. The contractor shall supply the stores in accordance with the contract specifications unless any deviation has been expressly specified in the contract and any amendments agreed thereto.
- 5.7.2 The contractor's offer to supply stores in accordance with the tender specifications shall be deemed to be in admission on his part that he has fully acquainted himself with the details thereof and no claim shall lie against the Purchaser on the ground that the contractor did not examine or acquaint himself fully with the tender specifications.
- 5.8 **Contractor's Liability for Defective Stores**
- 5.8.1 For a period of twelve months after the stores have been accepted by Purchaser the Contractor shall be responsible for any defects that may be discovered therein notwithstanding that such defects could have been discovered at the time of inspection or any defects therein are found to have developed under proper use, arising from faulty materials, design or workmanship and the Contractor shall remedy all such defects as aforesaid at his own cost provided he is called upon within a period of 14 months from the date of acceptance thereof to do

so, by the Purchaser who shall state in writing in what respect the goods are faulty and further if in the opinion of the Purchaser the defects are of such a nature that it is necessary to replace or renew any defective stores, such replacement or renewal shall be made by the Contractor without any extra costs to the Purchaser, provided notice informing the Contractor of the defect is given by the Purchaser within the said period of 14 months. The decision of the Purchaser notwithstanding any prior approval or acceptance of the Inspector as to whether or not the stores delivered are defective or any defect has developed within the said period of twelve months or as to whether the nature of defects renewal or replacement shall be final conclusive and binding on the Contractor.

## **6. ALTERATIONS**

- 6.1 The Purchaser may, from time to time, make changes in the drawings specifications and issue additional instructions without altering the purchase order in any manner provided that no changes shall have been ordered which materially alter the character and scope of the supply under the contract.
- 6.2 It shall be lawful for the parties to the contract to alter by mutual consent at any time and from time to time the drawings and specifications and as from the dates specified by him stores to be supplied shall be in accordance with such altered drawings and specifications provided that if any such alterations involve increase or decrease in the cost of or in the period required for production, a revision of the contract price and/or the period prescribed for delivery shall be made by mutual agreement in respect of the stores to which the alteration applies. In all other respects, the contract shall remain unaltered.

## **7. SAMPLES**

- 7.1 Samples submitted for any reason shall be supplied without charge and freight paid without any obligation of the Purchaser as regards safe custody or safe-return thereof. All samples submitted must be clearly labelled with the Contractor's name and address and tender number. If the Contractor submits the sample with his tender the same shall not govern the standard of supply except when it has been specifically stated in the Purchase Order that it is accepted instead of any sealed pattern. Should certified samples be lent to the Contractor by the Purchaser, the Contractor is responsible for the return in perfect order of all certified samples with the labels intact.

## **8. PACKING**

- 8.1 The contractor shall be held responsible for the stores being sufficiently and properly packed for transport by rail, road, sea or air so as to ensure their being free from any loss or damages on arrival at their destination. The packing and marking of packages shall be done by and at the expenses of the Contractor. Each package shall contain a Packing

Note quoting Purchase Order number and date and showing its contents in detail.

- 8.2 Unless otherwise provided in the contract all containers (including packing cases, boxes, tins, drums and wrappings) in which the stores are supplied by the contractor shall be considered as property of the Purchaser and their cost as having been included in the contract price.

**9. DELIVERY:**

**9.1 TIME FOR AND DATE OF DELIVERY, THE ESSENCE OF THE CONTRACT:**

The time for and the date of delivery of the stores stipulated in the purchase order/contract shall be deemed to be of the essence of the contract and delivery must be completed not later than the date/dates stipulated.

**9.2 EXTENSION OF DELIVERY SCHEDULE**

- 9.2.1 If any delay in delivery shall have arisen from any cause such as strike, Lock-outs, fire, accidents, riot or the like which the purchaser may admit as reasonable ground for grant of extension of delivery schedule, the purchaser will allow such additional period for the purpose as he may consider necessary taking the circumstances into consideration.
- 9.2.2 If the contractor fails to deliver the stores or any instalment or part thereof within the period fixed for such delivery or such additional period allowed by the purchaser in accordance with foregoing paragraphs or any time before the expiry of such period repudiates the contract, the Purchaser may without prejudice to the rights of the purchaser.
- 9.2.3 Recover from the contractor as Liquidated Damages and not by way of penalty as detailed under clause No.222 given herein below for any stores which the contractor has failed to deliver within the period fixed for delivery in the contract or such additional period as mentioned in paragraph 9.2.1. during which the delivery of such stores, may be in arrears where delivery thereof is accepted after expiry of the aforesaid period. (For the purpose of computing the damages for delayed supplies under the clause, the cost of the entire plant/machinery/equipment/instrument will be taken into consideration if the plant/machinery/equipment/instrument cannot be put to the intended use for want of delayed portion of supply).
- 9.2.4 Purchase or authorise the purchase elsewhere without notice to the contractor, on account and at the risk of the contractor of the stores not so delivered or others of a similar description (where stores exactly complying with the contract specification are not in the opinion of the Purchaser, which opinion shall be final, readily procurable) without cancelling the contract in respect of the portion instrument not yet due of delivery, OR
- 9.2.5 Cancel the contract or portion thereof and if so desired purchase or authorise purchase of the stores not so delivered or others of a similar description (where stores exactly complying with the contract specification are not in the opinion of the Purchaser, which opinion shall be final, readily procurable) at the risk and cost of the contractor, if the contractor had defaulted in the performance of the original contract, the purchaser shall have the right to ignore his offer in response to risk purchase enquiry even though the lowest.

- 9.2.6 Where action is taken under sub-clause 9.2.4 or sub-clause 9.2.5 above the contractor shall be liable for any loss which the purchaser may sustain on that account provided that the repurchase, or if there is an agreement to repurchase then such agreement, is made within a reasonable period from the date of such failure, depending upon the nature / merit of the purchase and in case of repudiation of the contract before the expiry of the aforesaid period of delivery, shall not be entitled to any gain on such purchase and the manner and method of such purchase shall be in the entire discretion of the Purchaser. It shall not be necessary for the purchaser to serve a notice of such purchase on the contractor.

## **10. INSPECTION**

- 10.1 The contractor shall be responsible for and perform all inspection and testing required in accordance with the contract/purchase order and specifications included herewith.
- 10.2 The Purchaser may at his option depute his representative for Inspection of the stores to be supplied under the contract or authorize and nominate a Quality Surveillance Agency of his choice for the purpose hereinafter called, in either case, the inspection.
- 10.3 The contractor shall give notice of readiness for inspection to the Inspector (deputed under clause 10.2 above) so that the Inspector can be present at the requisite time. In such an event delivery shall not be effected until an authorization or shipping release is obtained from the Purchaser's Inspector.
- 10.4 The contractor shall allow reasonable facility and free access to his work/factory and records to the inspector for the purpose of inspection or for ascertaining the progress of delivery under the contract.

## **11. RECTIFICATION AND REPLACEMENT OF DEFECTIVE STORES**

- 11.1 If the inspector find that the contractor has executed any unsound or imperfect work, the inspector shall notify such defects to the contractor and the contractor on receiving the details of such defects or deficiency, shall at his own expenses, within seven days or otherwise within such time as may be mutually agreed upon as reasonably necessary, proceed to alter, reconstruct or remanufacture the stores to the requisite standard and specifications as called for by the tender specification.

## **12. INSPECTION AND REJECTION**

- 12.1 **Inspection and Rejection:** The stores shall be tendered by the Contractor for inspection at such places as may be specified by the Inspector, at the Contractor's own risk, expenses and costs and shall lie at such places of inspection at the risk of the Contractor and the stores will be subject to inspection and test as may be considered necessary by the inspector and his decision as regards rejection of goods shall be final and binding on the Contractor. If any goods are rejected as aforesaid, then without prejudice to the foregoing provision, the Purchaser shall be at liberty to
- 12.1.1 Allow the Contractor to re submit without prejudice to the Purchaser's right to claim and recover Liquidated damages as provided in clause 9.2.3 hereof, stores in replacement of those rejected within a time specified by the Purchaser (which time shall be essence of the contract), the contractor bearing the

- cost of freight for such replacement without being entitled to any extra payment, or
- 12.1.2 Buy the quantity of stores rejected or others of a similar nature elsewhere at the risk and cost of the Contractor in accordance with the provisions contained in second paragraph of clause 9.2.4 thereof without effecting the Contractor's liability as regards the supply of any further consignments due under the Contract, or
- 12.1.3 Terminate the Contract and recover from the Contractor the loss Purchaser thereby incurred
- 12.2 **Removal of rejection:** Any stores submitted for inspection and rejected by the Inspector must be removed by the Contractor within fourteen days from the date of receipt of intimation of rejection, provided that in the case of dangerous infected or perishable stores, the Inspector (whose decision shall be final) shall notify the Contractor to remove such stores within 48 hours of receipt of intimation of rejection and it shall be the duty of the Contractor to remove them accordingly. Such rejected stores shall lie at the Contractor's risk from the time of such rejection and if not removed within the aforementioned time, the Purchaser shall have the right either to return the rejected stores to the Contractor at the Contractor's risk by such mode of transport as Purchaser may select or to dispose off or segregate such stores as he thinks fit at the Contractor's risk and on his accounts and to appropriate such portion of the proceeds as may be necessary to cover any loss or expenses incurred by the Purchaser in connection with the said sale. Freight to destination of stores rejected after examination at destination shall be recoverable from the Contractor at the Tariff Rate.
- 12.3 **Test Certificate and Guarantees:** Test Certificate Guarantees, if required by the Inspector shall be obtained and furnished by the Contractor free of costs.

### **13. RECOVERY OF SUMS DUE**

- 13.1 Whenever any claim for payment of, whether liquidated or not, moneys arises out of or under this contract against the Contractor the Purchaser shall be entitled to recover sum by appropriating, in part or whole, by encashing the Bank Guarantee submitted towards Security deposit by the Contractor, if a Security Deposit is taken against the Contract. In the event of the security being insufficient or no Security Deposit has been taken from the Contractor then the balance or the total sum or which at any time hereafter may become due to the Contractor under this or any other contract with the Purchaser, should this sum be not sufficient to cover the full amount recoverable, the Contractor shall pay to the Purchaser on demand the remaining balance due. Similarly, if the Purchaser has or makes any claim, 'whether liquidated or not against the Contractor under any other contract with the Purchaser the payment of all moneys payable under the contract to the contractor including the security deposit shall be withheld till such claims of the Purchaser are finally adjudicated upon and paid by the Contractor.
- 13.2 All demurrage, wharfage and allied expenses incurred by the Purchaser, if any, due to delayed clearance of Stores in view of non receipt, incomplete or delayed receipt of documents by the Purchaser, shall be recovered from the payment due to the Contractor.

**14. BAR/PERT CHART**

- 14.1 The contractor at the discretion of the Purchaser shall submit the BAR/PERT chart indicating various activities from the date of purchase order to handing over of the stores.

**15. PERFORMANCE BANK GUARANTEE**

- 15.1 In the event of acceptance of the offer in respect of plant, machinery, equipment, instrument, etc. the tenderer will be required to submit a performance bank guarantee for 10% of the total value of the stores inclusive of all statutory levies and other charges admitted in the contract, from SBI/any nationalized bank or private sector banks, namely, ICICI Bank, IDBI Bank, HDFC Bank and AXIS Bank, on a non-judicial stamp paper of appropriate value valid till 2 months beyond the expiry date of warranty period as per the Purchaser's format towards satisfactory performance of the plant, machinery, equipment, instrument, etc. during the warranty period. In case of bids in currency other than INR performance bank guarantee shall be furnished from any bank of international repute.
- 15.2 In case of non-submission of performance bank guarantee by the Contractor, an amount equivalent to 10% of the total value of the stores and other charges admitted in the contract will be retained by the purchaser till the expiry of the warranty period of the stores.
- 15.3 Offers of the tenders who are not agreeable to furnish performance bank guarantee or retaining of an equivalent amount by the purchaser as per clause No.15.1 and 15.2 above, are likely to be rejected.

**16. PERMIT AND LICENCES**

- 16.1 The contractor shall secure and pay all licenses and permit at his end which he may be required to comply with all laws ordinances and regulations of the public authorities in connection with the performance of his obligations under the contract. The contractor shall be responsible for all damages and shall indemnify and save the purchaser harmless from against all claims for damages and liability which may arise out of the failure of the contractors to secure and pay for any such licenses and permits or to comply fully which any and all applicable laws ordinances and regulations.

**17. PATENTS & PATENT RIGHTS INDEMNIFICATION**

- 17.1 The Contractor shall indemnify and keep indemnified the Purchaser from and against any and all claims, actions, costs, charges and expenses arising from or for infringement of patent rights, copy right or other protected rights, of any design plans, diagrams, drawings in respect of the stores supplied by the contractors or any of the manufacturing methods or process adopted by contractor for the stores supplied under the contract.
- 17.2 In the event of any claim being made or action being taken against the purchaser in respect of the matter referred to clause 17.1 above, the contractor shall promptly be notified thereof and he shall at his own expense, conduct all negotiations for the settlement of the same and any litigation that may arise therefrom.
- 17.3 In the event of any designs, drawing, plans or diagrams or any manufacturing methods or process furnished by the contractor constituting infringement of patent or any other protected rights and use thereof is restrained, the contractor shall procure for Purchaser, at

no cost to the latter, the rights to continue using the same or to the extent it is possible to replace the same so as to avoid such infringement and subject to approval by the Purchaser or modify them so that they become non-infringing, but such modifications shall otherwise be to the entire satisfaction of the Purchaser.

- 17.4 The provision of the clause remains effective and binding upon the Contractor even after the completion, expiration or termination of the contract.

## **18. LAW GOVERNING THE CONTRACT**

- 18.1 This Contract shall be governed by the laws of India for the time being in force. The marking of all stores supplied must comply with the requirements of India Acts relating to Merchandise Marks and all the rules made under such Acts.

## **19. JURISDICTION**

- 19.1 The Courts within the local limits (i.e. Gandhinagar) of whose jurisdiction the place from which the purchase order is issued is situation only shall, subject to Arbitration Clause, have jurisdiction to deal with and decide any matter out of this Purchase Order/Contract.

## **20. SETTLEMENT OF DISPUTES**

- 20.1 The Purchaser and the Contractor shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.
- 20.2 If the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract.

## **21. ARBITRATION**

- 21.1.1 In the event of any dispute or difference arising out or of in connection with any of the terms and conditions of the Purchase Order/Contract, the matter shall be referred to the Director, IPR for settlement. In case the parties to the Purchase Order are not in a position to settle the dispute mutually, the matter shall be referred to a Sole Arbitrator to be appointed in accordance with the Arbitration & Reconciliation Act, 1996 & Arbitration and Conciliation (Amendment) Act, 2015 as amended time to time.

## **22. LIQUIDATED DAMAGES**

- 22.1 As per Standard Terms & conditions, the Purchaser reserves the right to levy the Liquidated Damages, for delay in supply beyond the contractual delivery date at the rate of half percent (0.5 percent) of the total Contract price (Basic price) for each calendar week of delay. The total liquidated damages shall not exceed five percent (5%) of the contract price (Basic price). Stores/Goods will be deemed to have been delivered only when all its component parts are also delivered. If certain



components are not delivered in time, the Stores/Goods will be considered as delayed until such time as the missing parts are delivered.

- 22.2 Where the Contract entered into is a composite one with supply cum erection and installation/commissioning activities and the completion of erection and installation/commissioning is delayed irrespective of the fact that whether supply of material has been made within the original delivery period, the contract is to be considered as a whole and Liquidated Damages will be recovered on the total contract value.

**23. EXERCISING THE RIGHTS AND POWERS OF THE PURCHASER**

- 23.1 All the rights, discretions and powers of the Purchase under the contract shall be exercisable by and all notices on behalf of the Purchaser shall be given by the Purchase Officer and any reference to the opinion of the Purchaser in the terms and conditions contained in these General Conditions of all Contracts shall mean and be construed as reference to the opinion of any of the persons mentioned in this clause.

**24. TRAINING**

- 24.1 The successful tenderer shall, if required by the Purchaser, provide facilities for the practical training of Purchaser's engineering or technical personnel for their active association on the manufacturing process throughout the manufacturing period of the Contract/stores, number of such personnel to be mutually agreed upon. If demanded by the Purchaser, such training shall be conducted at Purchaser's site by the Contractor free of charge. The duration of training shall be mutually decided upon by the Purchaser and the Contractor.

**25. RISK PURCHASE**

- 25.1 In the event supplier fails to fulfill the contractual obligations as per the terms and conditions of the Contract, the Purchaser has an option of completing the Contract at the risk and expenses of the Contractor. While initiating risk purchase at the risk and expenses of the supplier, the Purchaser must satisfy himself that the supplier has failed to deliver and he has been given all the opportunities as per the Contract to execute the Contract and also adequate and proper notice. Wherever risk purchase is resorted to, the supplier is liable to pay the additional amount spent by the government, if any as compared to contracted amount. All the factors including the method of recovering such amount should also be considered while taking a decision to invoke the risk purchase.

**26. LIEN IN RESPECT OF CLAIMS IN OTHER CONTRACTS**

- 26.1 Any sum of money due and payable to the Contractor under any contract may be withheld or retained by way of lien by the purchaser or any other person or persons contracting through the Director, IPR against any claim of the Purchaser or such other person or persons in respect of payment of a sum of money arising out of or under any other contract made by the contractor with the Purchaser or with other such person or persons.
- 26.2 It is an agreed term of the contract that the sum of money so withheld or retained under this clause by the Purchaser will be kept withheld or retained as such by purchaser till this claim arising out of in the same

contract or any other contract is either mutually settled or determined by the arbitrator, and that the contractor shall have no claim for interest or damages whatsoever on this account or on any other ground in respect of any sum of money withheld or retained under this clause and duly notified as such to the contractor.

## **SPECIAL CONDITIONS OF CONTRACT GOVERNING SUPPLIES OF PLANT AND MACHINERY**

In addition to the General Conditions of Contract hereinbefore set out the following special conditions shall apply to contracts for the supply of Plant and Machinery and manufactured equipment. These Special Conditions where they differ from the General Conditions shall over-ride the later.

### **27. DEFINITION OF PLANT**

27.1 The word "PLANT" wherever, appears in these "Special Conditions of Contract governing supplies of Plants and Machinery" shall mean all machinery, plants, equipment or parts thereof or what the Contractor agrees to supply under contract as specified in the Purchase Order.

### **28. MISTAKES IN DRAWING**

28.1 The Contractor shall be responsible for and shall pay for an alterations of the works due to any discrepancies, errors or omissions in the drawings or other particulars supplied by him whether such drawings or particulars have been approved by the Purchaser or not.

### **29. RESPONSIBILITY FOR COMPLETENESS**

29.1 All fittings or accessories which may not be specifically mentioned in the specification but for which are usual or necessary, are to be provided by the Contractor without extra charge and the plant must be complete in all respects.

### **30. REJECTION OF DEFECTIVE PLANT**

30.1 If the completed plant or any portion thereof before it is finally accepted is found to be defective or fails to fulfill the requirements of the contract, the Purchaser shall give the Contractor notice setting forth with the details of such defects or failure and the contractor shall forthwith rectify the defective plant or alter the same to make comply with the requirement of the contract. Should the contractors fail to do so within a reasonable time the Purchaser may reject and replace at the cost of the Contractor, the whole or any portion of the Plant as the case may be, which is defective or fails to fulfill the requirement of the contract. Such replacement shall be carried out by the Purchaser within a reasonable time and at reasonable price and where reasonably possible to the same specifications and under competitive conditions. The Contractor shall be liable to pay to the Purchaser the extra cost, if any, of such replacement delivered and or erected as provided for in the contract such extra cost being the difference between the price paid by the Purchaser under the provisions above mentioned for such replacement and the contract price for them. Contractor shall refund to Purchaser any sum paid by the Purchaser to the Contractor in respect of such defective plant.

### **31. INSPECTION AND FINAL TESTS**

31.1 All tests necessary to ensure that the plant complies with the particulars and guarantees shall be carried out at such place or places as may be determined by the inspector. Should, however, it be necessary for the final tests as to performance or guarantees to be held over until the Plant is erected at site they shall be carried out within

one month of completion of erection.

**32. TRANSPORT AND RESPONSIBILITY FOR BREAKAGES EN-ROUTE**

32.1 Unless otherwise specified the Purchaser will take delivery of the plant from the place named in the purchase order but the contractor will be responsible for any damage which may be caused to the Plant during transit to the site of erection thereof.

**33. ERECTION AND COMMISSIONING**

33.1 In all cases where contracts provide for supervision of erection and commissioning or for test at the Purchaser's premises the Purchaser except where otherwise specified, shall provide free of charge, such labour, materials, fuels, stores, apparatus and instruments as may be required from time to time and as may reasonably be demanded by the contractor to carryout efficiently such supervision of erection and commissioning and for the requisite test. In case of contracts requiring electricity for the completion of erection, commissioning and testing at site, such electricity shall be supplied free to the contractor.

33.2 Action by the Purchaser under the clause shall not relieve the contractor of his warranty obligations under the contract.

**34. WARRANTY**

34.1 The contractor warrants that stores to be supplied under the contract shall be free from all defects and faults in materials, workmanship and manufacture and shall be of the highest grade and consistent with the established and generally accepted standards for stores of the types under the contract in full conformity with the specifications, drawings or samples, if any and shall if operable, operate properly. This warranty shall expire (except in respect of complaints notified to the contractor prior to such date) twelve months after the date of receipt of the last lot of stores under the contract at the ultimate destination stipulated in the contract.

34.2 For a period of twelve calendar months after the plant/machinery/equipment/instruments has been put into operation (or a suitable mutually agreed longer period to be reckoned from the date of last major shipment depending upon the nature of the plant/machinery/equipment/instrument) the Contractor shall be responsible for any defects that may develop under conditions provided for the contract and under proper use, arising from the faulty materials, design or workmanship in the plant or from faulty erection of the plant by the Contractor, but otherwise and shall rectify such defects at his own cost when called upon to do so by the Purchaser who shall state in writing such defects.

34.3 If it becomes necessary for the Contractor to replace or renew any defective portions of the plant for purpose of rectification under this clause, the provisions of this clause shall apply to the portions of the plant so replaced or renewed under the expiration of six months from the date of such replacement or renewal or until the end of the above mentioned period of twelve months whichever may be the later. If any defects not rectified within reasonable time, the purchaser may proceed to get the work done at contractor's risk and expenses but without prejudice to any other rights which the Purchaser may have against the Contractor in respect of such defects as provided in clause 9.2.4 or 9.2.5.

- 34.4 All inspections adjustments, replacements or renewals carried out Contractor during the warranty period shall be subject to the same conditions as in the contract.
- 34.5 Contractor shall, spare parts of equipment before going out of production, give adequate advance notice to the purchaser so that the latter may order requirement of spares in one lot if so desires.
- 34.6 The contractor shall further guarantee that if spare parts go out of production, will make available blue prints, drawings of spare parts and specifications of material at no cost to the Purchaser, if and when required in connection with the equipment to enable Purchaser to fabricate or procure spare parts from other sources.
- 34.7 The provision of this clause shall remain effective and binding upon the Contractor even after the completion or expiration of the contract and till the plant/machinery/equipment supplied under the contract is in use by the Purchaser.

### **35. MODE OF PAYMENT**

- 35.1 Unless otherwise agreed to in writing between the Purchaser and the Contractor, payment for the delivery of the material will be made as follows.
- Within 30 days from the date of final acceptance and on receipt of Performance Bank guarantee for 10% of the contract value amount from SBI/nationalized banks or any one of the scheduled banks mentioned in the bracket (Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank) valid through out the guarantee period mentioned in the contract/purchase order.**
- 35.1.1 In case any of the vendors seek advance or progressive payment prior to delivery of the material, such requests can be considered only in exceptional cases of large value items, in which case the vendor will be required to furnish a bank guarantee for an equivalent amount of the advance/progressive payment sought for, valid till the execution of the contract. The bank guarantee shall be got executed as per the Purchaser's format from the State Bank of India (SBI)/nationalized banks or any one of the scheduled banks mentioned in the bracket (Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank).
- 35.1.2 Besides, the offers of the vendors seeking advance/progressive payment will be evaluated by loading 12% interest charges per annum on the amount of advance desired up to the delivery period quoted.
- 35.1.3 In case any of the vendors seek pro-rata payment for the stores to be supplied they should clearly mention in their offer the maximum number of installments of supply. However, such installment delivery and pro-rata payment will be considered only in respect of contract involving large value and sizeable quantity of the item and the maximum number of installments shall be normally restricted to four. Acceptance or otherwise of this condition is reserved by the purchaser.
- 35.1.4 **Bank Charges:** All bank charges to be borne by the Contractor/Supplier.
- 35.1.5 No correspondence will be entertained within 30 days from the date of receipt of material and bills, whichever is later.
- 35.1.6 **Interest for delay in supply beyond the contractual delivery date:** Wherever advance payments are sought for by the contractor and

admitted in the contract, against Bank Guarantee for equivalent amount, in the event of any delay in supply beyond the contractual delivery date for reasons attributable to the contractor, interest charges @ 12% shall be levied for the period beyond the contractual delivery date, on the amount of balance advance payment to be adjusted.

**36. DELAY IN ERECTION**

36.1 Wherever erection of a plant or machinery is the responsibility of the Contractor as a term of the contract and in case the Contractor fails to carry out the erection as and when called upon as to do within the period specified by the Purchaser, the Purchaser shall have right to get the erection done through any source of his choice. In such an event, the contractor shall be liable to bear any additional expenditure that the Purchaser may incur towards erection. The Contractor shall, however, not be entitled to any gain due to such an action by the Purchaser.

**SECTION 'C'**

**TECHNICAL SPECIFICATIONS  
OF  
STORES AND DRAWINGS**

***Please refer tender document***



## **SECTION 'D'**

# **FORMAT FOR SUBMISSION OF PART-II (PRICE)**

***Please refer tender document***

TENDER FORM  
**INSTITUTE FOR PLASMA RESEARCH**  
(An Aided Institute of  
Department of Atomic Energy, Government of India)  
Near Indira Bridge; Bhat; Gandhinagar-382428; India

Following terms are replaced in our Form for Tender No.IPR/TN/PUR/TPT/18-19/39 dated 19/11/2018

- 1) Sr.No.3.1 (Section-A) under heading “Earnest Money Deposit (EMD)” of Form No.IPR-LP-ET-02.V5 (Terms and Conditions) is replaced with the following:  
The Tenderer shall submit, as part of its bid, interest free Earnest Money Deposit (EMD) for an amount as specified in the Tender Notice. EMD shall be submitted by way of Demand Draft from **SBI/nationalized banks or any one of the scheduled banks mentioned in the bracket (Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank)** issued in favour of **"Institute for Plasma Research"** and payable at **Ahmedabad. Tender received without EMD will be rejected at the discretion of IPR.**  
***(Copy of Demand Draft to be uploaded with the quotation, Original DD should be sent to IPR on or before the specified closing date and time)***
- 2) Sr.No.3.4 (Section-A) under heading “Earnest Money Deposit (EMD)” of Form No.IPR-LP-ET-02.V5 (Terms and Conditions) is replaced with the following:  
**Exemption from payment of EMD:** The firms registered with DGS&D, NSIC, DPS or Micro & Small Enterprises (MSEs) which are actual producers/manufacturers of tendered items are exempted from payment of EMD provided valid registration certificate is uploaded along with the offer.
- 3) Sr.No.18 (Section-A) under heading “Statutory Levies such as Customs Duty, Goods and Service Tax” of Form No.IPR-LP-ET-02.V5 (Terms and Conditions) is replaced with the following:  
**Clause Nos.18.1, 18.2, 18.3 and its sub-clauses deleted from Form No: IPR-LP-ET-02.V5.**
- 4) Sr.No.22 (Section-A) under heading “Submission of Drawings” of Form No.IPR-LP-ET-02.V5 (Terms and Conditions) is replaced with the following:  
**Submission of Drawings:** The tenderer shall furnish all drawings pertaining to the plant/machinery/ equipment/component to the Purchaser along with the tender for correct understanding and appreciation of the tender in quadruplicate. Besides, tenderers should also furnish general arrangement, schematic and such other drawings prescribed by the Purchaser within 45 days from the date of receipt of Purchase Order for approval. Such drawings should be furnished along with Part-I (Techno-Commercial) of the tender. Tenderer’s drawing will form part of the purchase order/contract only after these are approved by the Purchaser.

- 5) Sr.No.31 (Section-A) under heading “Delivery” of Form No.IPR-LP-ET-02.V5 (Terms and Conditions) is replaced with the following:

**Delivery:** Tenderer should note that no tender will be considered by the Purchaser unless the Tenderer can meet the delivery schedule specified by the Purchaser. All equipments/machinery/plant/component covered by this tender document should be supplied & assembled at IPR as per the Execution schedule given under clause No.5 of Section-C. The prices quoted by the tenderer should include all charges involved for direct and safe delivery of the items by Road to the project site of the Purchaser. If a tenderer so desires/separate lumpsum charges for transportation and safe delivery to Purchaser’s site could be furnished. Purchaser will neither undertake responsibility for transit insurance nor pay for it separately. No other, delivery term will be accepted by the Purchaser

- 6) Sr. No. 35 (Section-B) under heading Mode of Payment of “General Conditions of Contract” of Form No.IPR-LP-ET-02.V5 (Terms and Conditions) is replaced with the following:

**Payment:** Unless otherwise agreed to in writing between the Purchaser and the Contractor, payment for the delivery of the tendered items, will be made as follows.

- a) 80% of basic price + 100% of all other charges will be paid after receipt of material at IPR site and its verification by IPR representative and on receipt of invoice in triplicate.
- b) Balance 20% will be paid within 30 days from the date of acceptance and on receipt of Performance Bank Guarantee for 10% of the order value from SBI/nationalized banks or any one of the scheduled banks mentioned in the bracket (Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank) valid throughout the warranty period and on receipt of final invoice.

Following terms is **added to** our Form No. IPR-LP-ET-02.V5 for Tender No. No.IPR/TN/ PUR/TPT/18-19/xx dated 25/9/2018.

- a) **TDS as per CGST Act:** As per the provisions mentioned under Section No. 51 of the CGST Act 2017, TDS @ 2% (IGST 2% or CGST 1% and SGST 1%) will be deducted while making payment to the suppliers where total value of the purchase order/contracts/work orders exceeds Rs.2.5 Lakhs. Necessary TDS Certificate will be issued to the supplier after TDS deduction.

**IMPORTANT NOTE:**

**[1] QUOTATIONS ARE INVITED IN INDIAN CURRENCY ONLY**

**[2] QUOTATIONS RECEIVED OTHER THAN “INR” QUOTE SHALL SUMMARILY BE REJECTED.**

**TECHNICAL SPECIFICATIONS**

|              |  |
|--------------|--|
| <b>Title</b> | <b>UHV Compatible Motorized Manipulation System (Launcher)</b> |
|--------------|--|

**Institute for Plasma Research**

**Bhat, Gandhinagar-382428**



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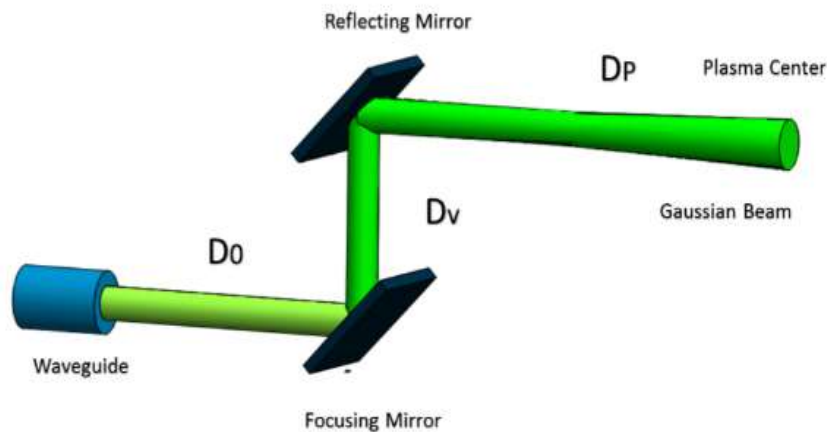
## 1. Introduction :

This system is used for the movement of the microwave beam in vacuum system (tokamak) along two directions. There are two mirrors used in the system: reflecting (plane) and focusing mirror. As shown in fig1, the beam first incidents on focusing mirror which focuses the beam and the reflecting mirror changes the direction of beam in two axis.

This system consists of one vacuum chamber and a cover plate with the assembly of mirrors and other mechanisms. The reflecting mirror, which is in UHV, is rotatable around two perpendicular axis (shown in fig2). They are named poloidal and toroidal axis for identification purpose (similar to x and y-axis). The mirror is rotated along two axis by two individual dedicated motors. The motion can be transferred to mirrors through mechanisms. Two motors with suitable drives and a motion controller can be used in the system.

The mirrors are installed in ultra high vacuum (UHV) while the motors are in atmosphere. The UHV compatible encoders are used to measure the angular position of mirror along two different axis. Ceramic bearings can be used to reduce the friction wherever required. All the components inside the UHV are made up of non-magnetic materials.

**The criticality of the system is that the poloidal movement of the mirror which is around  $\pm 10^\circ$  should be completed in 100 ms time.**

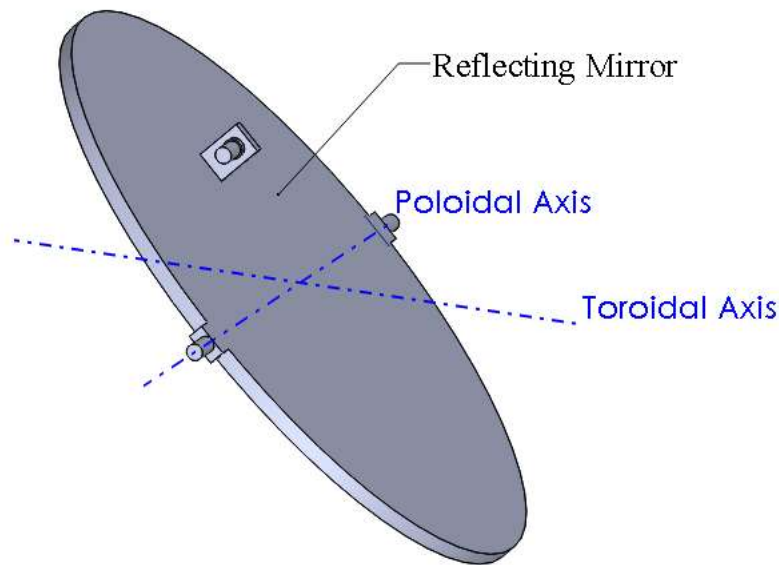


**Fig 1: Schematic of launcher system**

The angular positions of mirror and motors will be compared through encoders installed on mirror and motor and the backlash will be estimated. The laser beam will be incident on reflecting mirror from view port and the position of the reflected beam will be recorded on another view port which will allow to verify the accurate movement of the mirrors.

The design of the system may consider UHV compatible wet/dry lubrication. The vendor MUST ensure NOT to use any kind of grease or lubrication within the system without

appropriate approval from IPR. The vendor should ensure to maintain a clean room environment during fabrication of the system. Post Fabrication, necessary surface treatment should be provided by the vendor to ensure vacuum compatibility of the system.



**Fig 2: Reflecting Mirror with both axis**

**Note:** Poloidal and toroidal terms are used to refer to components of two different drive lines. It has no relation with the functionality of the components.

Reference design is explained in annexure 1. Vendor has to suggest and implement appropriate design to meet below mentioned technical requirements.



## 2. Technical Requirements

Note: Vendor has to fill following technical compliance sheet. Avoid using words like “yes”, “Comply” and please mention specific values

This section deals with the detailed technical specifications of the UHV compatible motorized manipulation system (Launcher). Bidders are required to provide corresponding specification value and information as requested against each specification. The technical specifications are categorized based on the functions.

| Sr No    | Specification   | IPR's Requirement  | Vendor's Comment |
|----------|---|--|------------------|
| <b>1</b> | <b>Fabrication of vacuum chamber as per drawing IPR/17/A3/ECRH/8078 (sheet 6)</b>     |  |                  |
|          | Operating Pressure  | Atm. To $1 \times 10^{-8}$ mbar  |                  |
|          | Material  | SS304L (material test certificate required)                                |                  |
|          | Baking Compatibility  | Up to 150 degree centigrade  |                  |
|          |   |  |                  |
| <b>2</b> | <b>Fabrication of reflecting mirror as per drawing IPR/17/A3/ECRH/8078 (sheet 13)</b> |  |                  |
|          | Material  | SS 304L (material test certificate required)                               |                  |
|          | Dimensions  | Ellipse with minor radius = 70mm and Major radius = 100 mm, Thickness 5 mm |                  |
|          | Surface finish on reflecting side (Ra)  | 0.5 micrometer or better   |                  |
|          |   |  |                  |
| <b>3</b> | <b>Fabrication of focusing mirror as per drawing IPR/17/A3/ECRH/8078 (sheet 14)</b>   |  |                  |
|          | Material  | SS 304L (material test certificate required)                               |                  |

|          |   |  |  |
|----------|---|--|--|
|          | Dimensions  | Ellipse with minor radius = 70mm and Major radius = 100 mm, Thickness 10 mm and radius of curvature = 1.8 m          |  |
|          | Surface finish on reflecting side (Ra)  | 0.5 micrometer or better   |  |
|          |   |  |  |
| <b>3</b> | <b>Movement of the reflecting mirror in vacuum</b>                                  |  |  |
|          | Poloidal movement speed   | $\pm 10^\circ$ (i.e. total $20^\circ$ ) in 100 ms over entire range from any poloidal location                       |  |
|          | Total Poloidal movement   | $\pm 20^\circ$ (home position $0^\circ$ is when mirror is at $45^\circ$ to coverplate)                               |  |
|          | Toroidal movement speed   | $\pm 50^\circ$ in 10 sec   |  |
|          | Operating vacuum range  | Atm. To $1 \times 10^{-8}$ mbar  |  |
|          | Minimum no. of cycles (for both axis) before first service/replacement              | 10000  |  |
|          |   |  |  |
| <b>4</b> | <b>Vacuum compatible Encoders for both axis (Poloidal and toroidal-mirror side)</b> |  |  |
|          | Accuracy  | 0.01 degree or better  |  |
|          | Operating pressure  | Atm. To $1 \times 10^{-8}$ mbar  |  |
|          | Bake out temp   | 120°centigrade max   |  |
|          | Protocol  | Compatible with motor controller or readable in Labview  |  |
|          | Type  | Absolute   |  |
|          |   |  |  |
| <b>5</b> | <b>Electrical/Instrumentation feedthroughs for taking encoder signals</b>           |  |  |
|          | Connection  | 25 KF (preferable) other sizes allowed if it can be accommodated in the system. But, only KF connection is required. |  |
|          | Pins  | According to number of pins in rotary encoder  |  |
|          | Operating pressure  | Atm. To $1 \times 10^{-8}$ mbar  |  |

|          |   |  |  |
|----------|---|--|--|
|          | Bake out Temperature                      | Max 150 degree centigrade  |  |
|          | Operating Temperature                     | 10 to 50 degree centigrade   |  |
|          |   |  |  |
| <b>6</b> | <b>SS/AL test stand with PU/SS wheels</b> |  |  |
|          | Material                                  | SS or Aluminum extruded channels   |  |
|          | height                                    | Around 1 meter   |  |
|          | Wheels                                    | PU or SS wheels  |  |
|          | Other requirement                         | Provision to mound Turbo Molecular pump(150CF) at one of the 100 CF flange                           |  |
|          |   |  |  |
| <b>7</b> | <b>View Port -1</b>                       |  |  |
|          | Connection                                | 100 CF   |  |
|          | Lens Dia                                  | 3.5 inch or more   |  |
|          | Flange material                           | SS304L,SS316L,SS304,SS316  |  |
|          | Vacuum range                              | Atm to $1 \times 10^{-8}$ torr   |  |
|          | Temperature Range                         | 15 to 150 °C   |  |
|          | Other characteristic                      | Transparent to visible light   |  |
|          | Transmission for visible range            | 80% or more  |  |
|          | Window material                           | Glass or sapphire  |  |
|          |   |  |  |
| <b>8</b> | <b>View Port -2</b>                       |  |  |
|          | Connection                                | 100 CF   |  |
|          | Lens Diameter                             | 2 inch or more   |  |
|          | Flange material                           | SS304L,SS316L,SS304,SS316  |  |
|          | Vacuum range                              | Atm to $1 \times 10^{-8}$ torr   |  |
|          | Temperature Range                         | 15 to 150 °C   |  |
|          | Other characteristic                      | Transparent to visible light   |  |
|          | Transmission for visible range            | 80% or more  |  |
|          | Window material                           | Glass or sapphire  |  |
|          |   |  |  |
|          |   |  |  |
| <b>9</b> | <b>Other Requirements</b>                 |  |  |
|          | Electro polishing                         | Electro polishing is must on vacuum exposed surfaces   |  |
|          | Documentation                             | Proper documents operation manuals, troubleshooting manuals of all sub components should be provided |  |

|  |                              |   |  |
|--|------------------------------|---|--|
|  | Material Test Certificates   | Material test certificates of all the materials should be provided before starting fabrication  |  |
|  | Magnetic field compatibility | The components (except vacuum compatible encoders) are exposed to <b>magnetic field of Bx=600 ,By=0.6 and Bz = 60 gauss</b> . Hence they should be compatible to this field and proper shielding should be provided wherever required. (X axis is along poloidal axis and Y along toroidal) |  |
|  | Material Properties          | All the materials (except the shielding material used for motor etc.) should be non-magnetic and all the materials in vacuum should be UHV compatible   |  |
|  | Surface finish               | Surface finish of vacuum exposed surfaces should be better than 3 micron  |  |
|  | Outgassing rate              | Total outgassing(of entire system with all components) rate after baking at 150 ° centigrade should be less than $3 \times 10^{-8}$ mbar lit/s  |  |
|  | Reports to be submitted      | Dispatch Clearance Test Reports, SAT reports, operational sequence, manufacturing procedure for entire system   |  |
|  | Encoders                     | Absolute encoders on load(mirror) as well as prime mover side (i.e. motor) with minimum accuracy of 0.01° for both axis and memory of home position.  |  |
|  | Control Requirements         | Whole system should work remotely with independent software (application)   |  |
|  |                              | All measurements data of motor or mirror movement with given accuracy should be displayed in GUI  |  |
|  |                              | System should be capable of being operated through PC/Laptop sitting at 50 meter away   |  |

|           |                    |  |  |
|-----------|--------------------|--|--|
|           | Guarantee          | 12 months from the date of final acceptance for poor workmanship, faulty material, malfunctioning of any electronic, electrical or mechanical component etc. If fault occurs during this period, contractor will rectify without any extra cost. |  |
|           |                    |  |  |
| <b>10</b> | <b>Spare Items</b> |  |  |
|           | Wire Seal          | 5  |  |
|           | Ball screw and nut | 1*   |  |
|           | Bush and bearings  | 3 per each used *  |  |
|           | Motor              | 1 per each used *  |  |
|           | Coupling           | 2 per each used *  |  |
|           | Bellow             | 1 per each used *  |  |

\*Spares for only those components which are used in the system have to be provided

| <b>3. Scope of work:</b>   | <b>Vendor's comment</b> |
|--|-------------------------|
| The scope of work includes the below mentioned activities to be carried out by vendor.   |                         |
| <ul style="list-style-type: none"> <li>• Design of the entire system as per technical requirements mentioned above.</li> </ul>   |                         |
| <ul style="list-style-type: none"> <li>• Generation of 2D fabrication drawings, bill of materials (BOM), 3D CAD model, write ups and approval of the same from IPR.</li> </ul>   |                         |
| <ul style="list-style-type: none"> <li>• Procurements of all necessary materials, items and equipments with test certificates, whenever applicable.</li> </ul>   |                         |
| <ul style="list-style-type: none"> <li>• Fabrication and assembly of all the components.</li> </ul>  |                         |
| <ul style="list-style-type: none"> <li>• Testing &amp; Inspection of the materials, parts, components &amp; sub-assembly at appropriate stages before the final assembly. Supply of appropriate test reports to IPR</li> </ul> |                         |
| <ul style="list-style-type: none"> <li>• Demonstration of mentioned tests before dispatch. (Dispatch Clearance Tests, mentioned in sec 4) and submission of test reports to IPR.</li> </ul>                                    |                         |
| <ul style="list-style-type: none"> <li>• Packaging and delivery of components to IPR with appropriate unloading instructions at IPR site.</li> </ul>   |                         |
| <ul style="list-style-type: none"> <li>• Re-assembly of all the components at IPR in case of transportation of the system in assembled condition is not possible.</li> </ul>   |                         |
| <ul style="list-style-type: none"> <li>• Demonstration of SAT (mentioned in sec 4.2) and submission of test report to IPR.</li> </ul>  |                         |
| <ul style="list-style-type: none"> <li>• Measurement of final accuracy and repeatability for both the axis at factory and site.</li> </ul>   |                         |
| <ul style="list-style-type: none"> <li>• Source code and software (preferably in labview) has to be provided by vendor with system to run it remotely through desktop or laptop.</li> </ul>                                    |                         |

|   |                                |
|---|--------------------------------|
| <p>Note:</p> <ul style="list-style-type: none"> <li>List of works mentioned above to be carried out by vendor as per technical specification/drawings under purchaser's supervision and guidance. For any required deviation from this procedure, prior permission of IPR is must.</li> <li>Vendor will discuss the fabrication methodology with IPR authority and will give complete breakup of activities, facilities to be used and time schedule. Periodical review of work progress/status with IPR is mandatory.</li> <li>Procurement of bought out items (bearings, bushes, vacuum feedthroughs, motors, controllers, drives etc.) should be from original manufacturer or their authorized agents.</li> </ul> |                                |
| <p><b>4. Acceptance Criteria</b></p>  | <p><b>Vendor's comment</b></p> |
| <p><b>4.1 Dispatch Clearance Tests</b></p>  |                                |
| <ul style="list-style-type: none"> <li>Proper working of all components and dimensional check</li> </ul>  |                                |
| <ul style="list-style-type: none"> <li>Leak tightness of whole assembly. Leak must be less than <math>1 \times 10^{-8}</math> mbar l/s</li> </ul>   |                                |
| <ul style="list-style-type: none"> <li>UHV testing. Vacuum level upto <math>1 \times 10^{-8}</math> mbar has to be demonstrated before dispatch</li> </ul>  |                                |
| <ul style="list-style-type: none"> <li>Full span movement of reflecting mirror along both axis in above mentioned time scales. This will be repeated for at least 1000 cycles. The accuracy should be better than <math>0.5^\circ</math> (mirror side) for both the directions and repeatability better than <math>0.2^\circ</math>.</li> </ul>   |                                |
| <ul style="list-style-type: none"> <li>Full span working and control of system with remote software as well as manually.</li> </ul>   |                                |

|  |                                |
|--|--------------------------------|
| <ul style="list-style-type: none"> <li>• The following reports must be submitted to IPR for approval before dispatch</li> <li>1. Vacuum Test Report: Describing the values of global leak rate of the system and ultimate vacuum archived in the system and the complete procedure adopted for these tests.</li> <li>2. Mechanical Test Report: Describing the measured values of accuracy and repeatability of mirror motions after 1000 cycles of full span movement and the complete procedure adopted for the test. The complete mirror position vs. time graphs for step inputs should be submitted.</li> </ul> |                                |
|  |                                |
|  |                                |
| <p><b>4.2 Site Acceptance Test (SAT)</b></p>   |                                |
| <ul style="list-style-type: none"> <li>• Visual inspection , dimensional check and proper working of all components as per specification</li> </ul>  |                                |
| <ul style="list-style-type: none"> <li>• Leak tightness of whole assembly. Leak must be less than <math>1 \times 10^{-8}</math> mbar l/s</li> </ul>  |                                |
| <ul style="list-style-type: none"> <li>• Full span movement of reflecting mirror along both axis in above mentioned time scales. The accuracy should be better than <math>0.5^\circ</math> (mirror side) for both the directions and repeatability better than <math>0.2^\circ</math>.</li> </ul>  |                                |
| <ul style="list-style-type: none"> <li>• UHV testing. Vacuum level upto <math>1 \times 10^{-8}</math> mbar has to be demonstrated.</li> </ul>  |                                |
| <ul style="list-style-type: none"> <li>• Full span working and control of system with remote software as well as manually.</li> </ul>  |                                |
| <ul style="list-style-type: none"> <li>• Note: Consumables like gaskets, wire seals etc. for Dispatch Clearance Test and SAT have to be provided by vendor.</li> </ul>   |                                |
|  |                                |
|  |                                |
|  |                                |
|  |                                |
| <p><b>5. Schedule:</b></p>   | <p><b>Vendor's comment</b></p> |
| <ul style="list-style-type: none"> <li>• Vendor should submit the design details along with drawings within 45 days from the receipt of Purchase Order.</li> </ul>   |                                |
| <ul style="list-style-type: none"> <li>• IPR will give the comments/acceptance of the drawing within 15 days after receiving it from the vendor.</li> </ul>  |                                |



|   |  |
|---|--|
| <ul style="list-style-type: none"><li>• After the acceptance of drawings from IPR, vendor can start the fabrication.</li></ul>  |  |
| <ul style="list-style-type: none"><li>• The dispatched clearance test reports should be submitted to IPR and approved before dispatch of the system.</li></ul>            |  |
| <ul style="list-style-type: none"><li>• The delivery of the system should be within 5 months from the date of acceptance of drawings.</li></ul>                           |  |
| <ul style="list-style-type: none"><li>• Reassembly of the system should be done within three weeks from the delivery at IPR.</li></ul>                                    |  |
| <ul style="list-style-type: none"><li>• Final acceptance will be given after carrying out all the acceptance tests at IPR. Tests will be carried out by vendor.</li></ul> |  |

## 6. Annexure 1 (Design for Reference)

### 1. Description of the system:

The mirror is rotated along two axis by two individual dedicated motors. The motion is transferred to mirrors through mechanisms. Two motors with suitable drives and a motion controller will be used in the system.

The drivelines are as follows

- 1) Motor (Poloidal) → Ball screw → Bellow → linkages → Reflecting (Plane) Mirror
- 2) Motor (Toroidal) → Rotary feedthrough → Spur Gear → Reflecting (Plane) Mirror

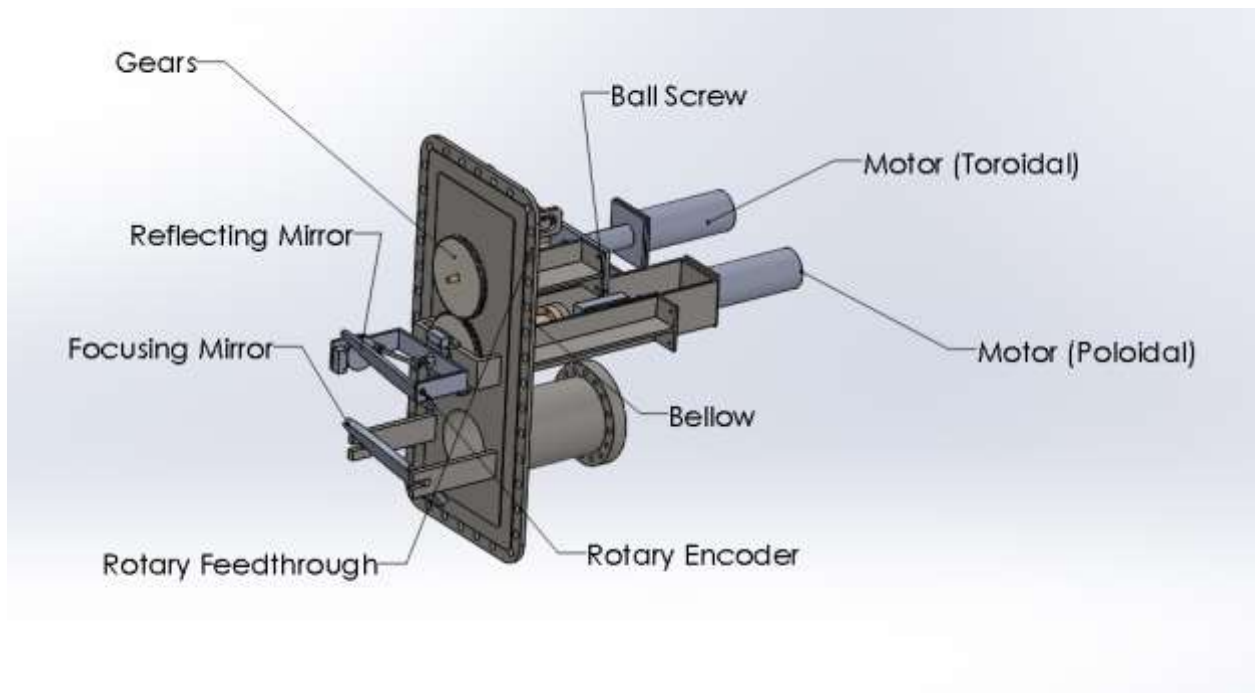
The mirrors are installed in ultra high vacuum (UHV) while the motors are in atmosphere. The UHV compatible encoders are used to measure the angular position of mirror along two different axis. Ceramic bearings are used to reduce the friction wherever required. All the components inside the UHV are made up of non-magnetic materials.

### 2. List of the Components:

The following list explains the components used in the system

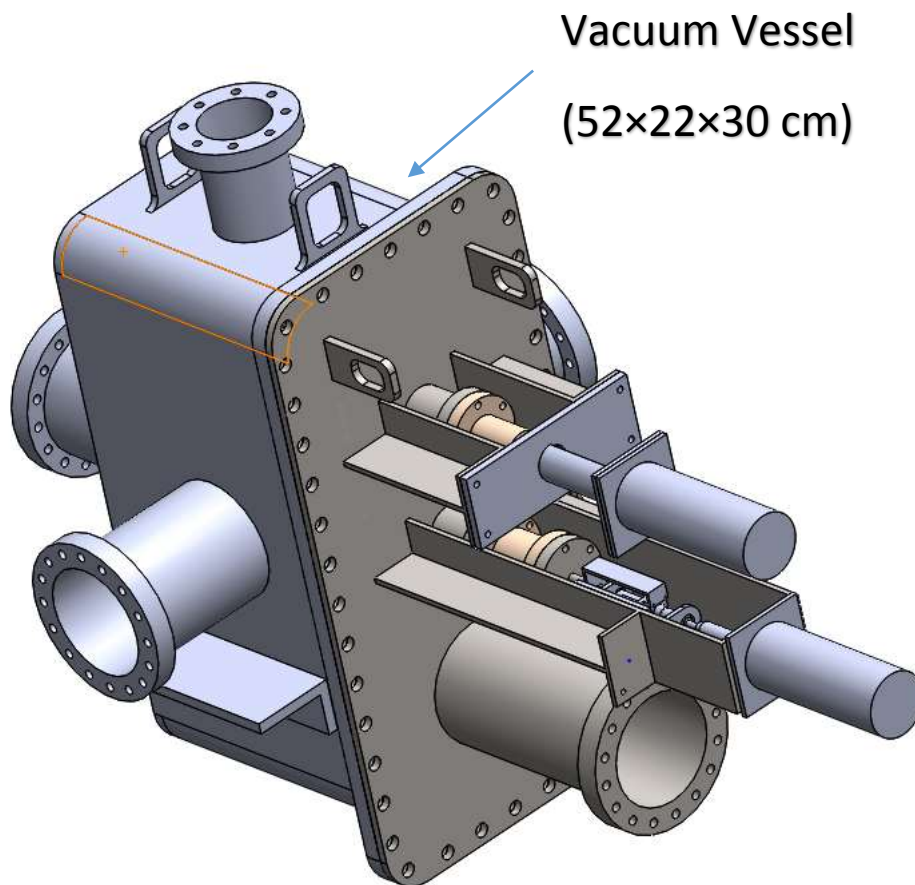
| Sr. No. | Name of the Component                | Quantity             |
|---------|--------------------------------------|----------------------|
| 1       | Vacuum chamber                       | 1                    |
| 2       | Cover plate with motor mountings     | 1                    |
| 3       | UHV Bellow                           | 1                    |
| 4       | Rotary feedthrough                   | 1                    |
| 5       | Motors (Poloidal and Toroidal)       | 2                    |
| 6       | Programmable motion controller       | 1                    |
| 7       | Servo Drives suitable with motors    | 2                    |
| 8       | UHV compatible gears                 | 2                    |
| 9       | Ball screw                           | 1                    |
| 10      | Vacuum Compatible encoders           | 2                    |
| 11      | Electrical feedthrough               | As per requirement   |
| 12      | UHV bearings                         | 4                    |
| 13      | Reflecting Mirror                    | 1                    |
| 14      | View Port-1                          | 1                    |
| 15      | View Port-2                          | 1                    |
| 16      | Focusing Mirror                      | 1                    |
| 17      | SS/Al test stand with PU/SS wheels   | 1                    |
| 18      | Flanges                              | As per given details |
| 19      | Other small miscellaneous components | As per the drawings  |

### 3. CAD model of the system



**Image of the assembly without Vacuum chamber**

Refer drawing IPR/17/A3/ECRH/8078 (total 14 sheets) for more details



**Mirror assembly along with components and vacuum chamber**

#### 4. Technical specifications of the components for the designed system:

##### 1) Vacuum chamber (Quantity – 1)

| Sr. No | Specification      | Requirement  |
|--------|--------------------|--|
| 1      | Size               | Approx. 52 ×22.4× 29.1 cm (as per drawing-sheet 6) |
| 2      | Thickness          | As per drawing (Sheet 6)                           |
| 3      | Operating Pressure | Atm. To $1 \times 10^{-8}$ mbar                    |
| 4      | Material           | SS304L   |

The ports and flanges are to be fabricated as per the drawing (sheet 6).

##### 2) Cover plate with motor mountings (Quantity – 1)

| Sr. No | Specification | Requirement                  |
|--------|---------------|------------------------------|
| 1      | Material      | SS304L                       |
| 2      | Dimensions    | As per the drawing (Sheet 2) |

Note : Wire seal (aluminum) of 2 mm diameter and around 55 × 25 cm (rectangular shape) has to be used between cover plate and the main chamber. Exact dimensions are given in drawings.

##### 3) UHV Bellow (Quantity – 1)

| Sr. No | Specification         | Requirement                      |
|--------|-----------------------|----------------------------------|
| 1      | Flange size           | CF 40 or smaller                 |
| 2      | Max axial force       | 100 N                            |
| 3      | Max stroke length     | 20 mm or more                    |
| 4      | Operating Pressure    | Atm. To $1 \times 10^{-8}$ mbar  |
| 5      | Leak Rate             | $<1 \times 10^{-9}$ mbar-liter/s |
| 6      | Baking compatibility  | upto 150 degree centigrade       |
| 7      | Total length          | Around 10 cm or less             |
| 8      | Effective Spring rate | 10 N/cm or less                  |
| 9      | Max outer diameter    | Around 5 cm                      |
| 10     | Type                  | Edge Welded                      |
| 9      | Material              | Nonmagnetic austenitic steel     |
| 10     | Free length           | Around 6 cm                      |
| 11     | Compressed length     | Around 4 cm                      |
| 12     | No. of Cycles         | 10000 or more                    |

4) Rotary feedthrough (Quantity – 1)

| Sr. No | Specification         | Requirement                |
|--------|-----------------------|----------------------------|
| 1      | Flange size           | CF 40 or smaller           |
| 2      | Max Torque            | 1 Nm                       |
| 3      | Max Rotational Speed  | 50 RPM                     |
| 4      | Operating Pressure    | Atm. to $10^{-8}$ mbar     |
| 5      | Leak Rate             | $<10^{-9}$ mbar-liter/s    |
| 6      | Baking Temperature    | upto 150 degree centigrade |
| 7      | Material requirements | Non magnetic               |

5) Motors (Poloidal and Toroidal) (Quantity – 2)

| Sr. No | Specification       | Requirement                                    |
|--------|---------------------|--|
| 1      | Rated Speed         | 3000 rpm or more                               |
| 2      | Rated torque        | 2.5 Nm or more                                 |
| 3      | Rotor Inertia       | $1 \times 10^{-4}$ kg-m <sup>2</sup> or less   |
| 4      | Mass                | less than 3.0 kg                               |
| 5      | Brake               | Required for rated speed and torque            |
| 6      | Brake Inertia       | Less than $5 \times 10^{-5}$ kg-m <sup>2</sup> |
| 7      | Motor diameter      | Less than 80 mm excluding connectors           |
| 8      | Encoder             | Absolute > 12 bits                             |
| 9      | Standard compliance | CE standards                                   |
| 10     | RoHS compliance     | Required                                       |
| 11     | Type                | Servo motor                                    |

6) Programmable motion controller (Quantity -1)

| Sr. No | Specification  | Requirement                          |
|--------|--|--------------------------------------|
| 1      | Processor speed  | 400 MHz or more                      |
| 2      | Internal memory  | Required                             |
| 3      | External Memory  | SD card or USB                       |
| 4      | Input Power  | 230 V AC or DC (for DC with adapter) |
| 5      | Bus interface  | Ethercat or any other                |
| 6      | Plug and play compatibility with broad range of motion control solution. | Required                             |
| 7      | Support for modbus, Ethernet, profinet,ethercat                          | Required                             |
| 8      | Control  | Local and Remote                     |
| 9      | On board digital I/O as well as expansion support with Ethercat          | Required                             |

|    |  |          |
|----|--|----------|
| 10 | Support for controller programming and HMI programming as per user application | Required |
| 11 | Programming support for Lab view   | Required |
| 12 | Encoder support  | Absolute |

7) Servo drive compatible with motor (quantity -2)

| Sr. No | Specification                   | Requirement                            |
|--------|---------------------------------|--|
| 1      | Supply voltage                  | 230 V AC /50Hz                         |
| 2      | Input/output current            | As per motor requirement               |
| 3      | On board Analog and Digital I/O | remote expansion and for user          |
| 4      | Encoder                         | Absolute                               |
| 5      | Bus interface                   | Ethercat or compatible with controller |
| 6      | Service support                 | Ethernet TCP/IP                        |
| 7      | Safety function                 | According to IEC standard              |

Note: Combined Drive cum controller can also be used in place of separate drive and controller

8) UHV compatible gears (Quantity – 2)

| Sr. No | Specification               | Requirement  |
|--------|-----------------------------|--|
| 1      | Type                        | Spur Gear  |
| 2      | Material                    | SS 316L with TiN or equivalent coating (around 5µm) on teeth                       |
| 3      | Module                      | 1.00   |
| 4      | Number of teeth             | 120  |
| 5      | Face width                  | 10 mm  |
| 6      | Operating pressure          | Atm. To $1 \times 10^{-8}$ mbar  |
| 7      | Max Coefficient of Friction | Less than 0.2  |
| 8      | No. of cycles               | 10000 or more  |
| 9      | Outgassing rate             | $1 \times 10^{-11}$ mbar lit/s $\text{cm}^2$ less at room temperature after baking |
| 10     | Bake out temperature        | 150° centigrade  |

9) Ball screw (Quantity – 1)

| Sr. No | Specification | Requirement              |
|--------|---------------|--------------------------|
| 1      | Type          | Backless free Ball screw |
| 2      | lead          | 8 mm                     |
| 3      | Length        | Around 4 cm              |

|   |                  |               |
|---|------------------|---------------|
| 4 | Nominal diameter | 12 mm or less |
| 5 | Axial Load       | 300 N or more |
| 6 | Material         | Non magnetic  |

10) Vacuum compatible Rotary encoders (Quantity 2)

| Sr. No | Specification      | Requirement   |
|--------|--------------------|---|
| 1      | Type               | UHV compatible Absolute rotary encoders                 |
| 2      | Accuracy           | 0.01 degree or better                                   |
| 3      | Outer diameter     | as per design   |
| 4      | Inner diameter     | as per design   |
| 5      | thickness          | as per design   |
| 6      | Operating pressure | Atm. To $1 \times 10^{-8}$ mbar                         |
| 7      | Bake out temp      | 120°centigrade max                                      |
| 8      | Protocol           | Compatible with motor controller or readable in Labview |

11) Electrical/Instrumentation feedthroughs (Quantity 2) (quantity may vary as per requirement )

| Sr. No | Specification         | Requirement                                   |
|--------|-----------------------|---|
| 1      | Type                  | UHV compatible electrical feedthrough         |
| 2      | Connection            | 25 KF   |
| 3      | Pins                  | According to number of pins in rotary encoder |
| 4      | Operating pressure    | Atm. To $1 \times 10^{-8}$ mbar               |
| 5      | Bake out Temperature  | Max 150 degree centigrade                     |
| 6      | Operating Temperature | 10 to 50 degree centigrade                    |
| 7      | Leak rate             | less than $1 \times 10^{-9}$ mbar-lit/s       |

12) UHV bearings (Quantity – 4)

| Sr. No | Specification         | Requirement                    |
|--------|-----------------------|--------------------------------|
| 1      | Type                  | UHV Compatible bearing         |
| 2      | Operating pressure    | Atm to $1 \times 10^{-8}$ torr |
| 3      | Operating temperature | 10 to 50 degree centigrade     |
| 4      | Bake out temperature  | Max 150 degree centigrade      |
| 5      | Maximum radial load   | 15 N                           |
| 6      | Outer Diameter        | 10 mm                          |
| 7      | Inside Diameter       | 5 mm                           |



|    |                 |                                       |
|----|-----------------|---------------------------------------|
| 8  | Thickness       | 4 mm                                  |
| 9  | Material        | UHV Compatible and non-magnetic       |
| 10 | Outgassing Rate | $1 \times 10^{-9}$ mbar lit/s or less |

13) Reflecting Mirror (Quantity – 1)

| Sr. No | Specification                          | Requirement               |
|--------|--|---------------------------|
| 1      | Material                               | SS 316l                   |
| 2      | Dimensions                             | As per drawing (Sheet 13) |
| 3      | Surface finish on reflecting side (Ra) | 0.5 micrometer or better  |

14) View Port-1 (Quantity – 1)

| Sr. No | Specification                  | Requirement                    |
|--------|--------------------------------|--------------------------------|
| 1      | Connection                     | 100 CF                         |
| 2      | Lens Dia                       | 3.5 inch or more               |
| 3      | Flange material                | SS304L,SS316L,SS304,SS316      |
| 4      | Vacuum range                   | Atm to $1 \times 10^{-8}$ torr |
| 5      | Temperature Range              | 15 to 150 °C                   |
| 6      | Other characteristic           | Transparent to visible light   |
| 7      | Transmission for visible range | 80% or more                    |
| 8      | Window material                | Glass or sapphire              |

15) View Port-2 (Quantity – 1)

| Sr. No | Specification                  | Requirement                    |
|--------|--------------------------------|--------------------------------|
| 1      | Connection                     | 100 CF                         |
| 2      | Lens Dia                       | 2 inch or more                 |
| 3      | Flange material                | SS304L,SS316L, SS304, SS316    |
| 4      | Vacuum range                   | Atm to $1 \times 10^{-8}$ torr |
| 5      | Temperature Range              | 15 to 150 °C                   |
| 6      | Other characteristic           | Transparent to visible light   |
| 7      | Transmission for visible range | 80% or more                    |
| 8      | Window material                | Glass or sapphire              |

16) Focusing Mirror (Quantity -1)

| Sr. No | Specification | Requirement |
|--------|---------------|-------------|
| 1      | Material      | SS 316l     |

|   |  |                           |
|---|--|---------------------------|
| 2 | Dimensions                             | As per drawing (Sheet 14) |
| 3 | Surface finish on reflecting side (Ra) | 0.5 micrometer or better  |

17) SS/AL test stand with PU/SS wheels\* (Quantity – 1)

| Sr. No | Specification     | Requirement  |
|--------|-------------------|--|
| 1      | Material          | SS or Aluminum extruded channels   |
| 2      | height            | Around 1 meter   |
| 3      | Wheels            | PU or SS wheels  |
| 4      | Other requirement | Provision to mount Turbo Molecular pump(150CF) at one of the 100 CF flange |

\*Simple test stand to mount the assembly with one TMP

18) Flanges

s

Common specifications for all flanges

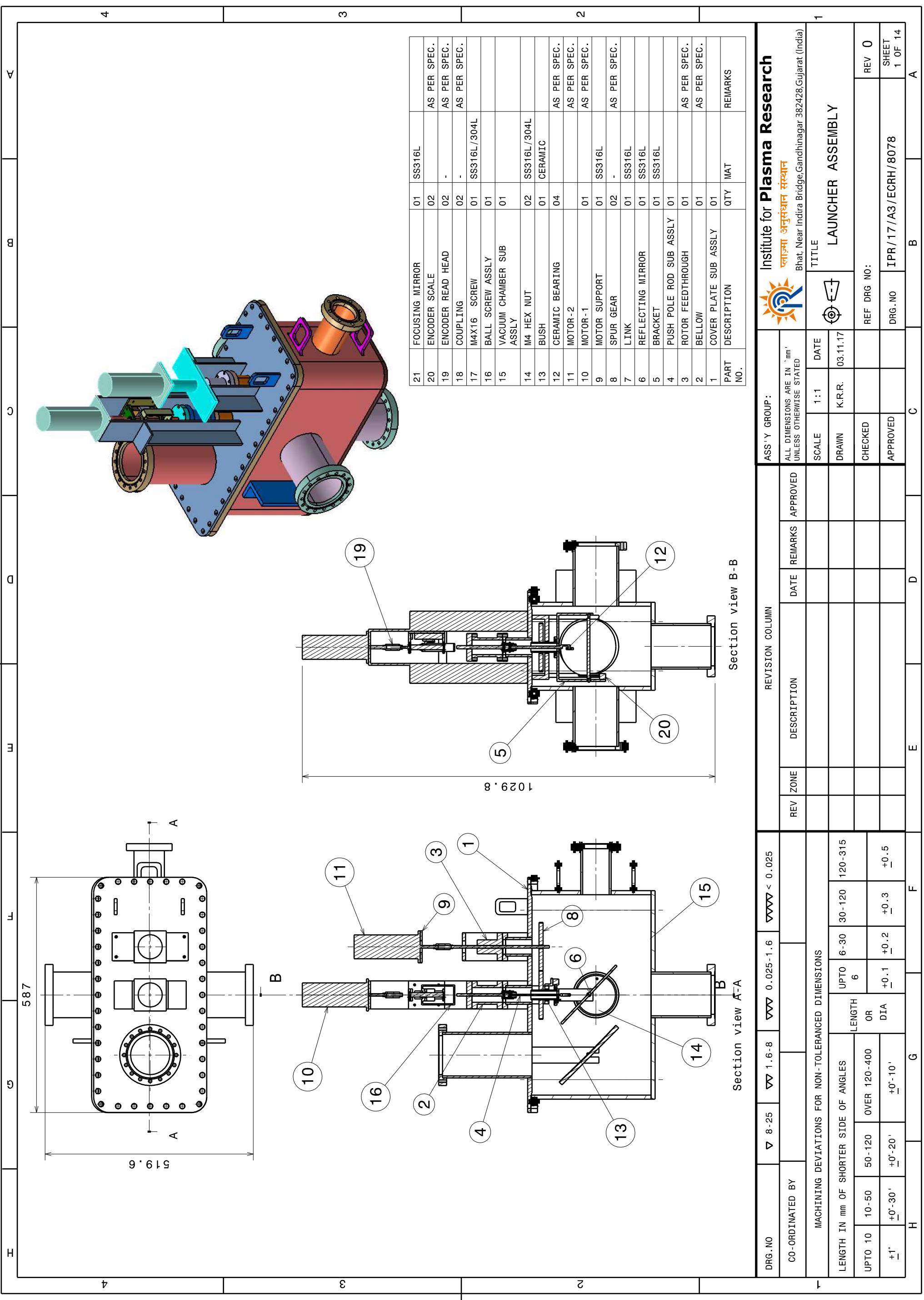
| Sr. No | Specification     | Requirement                           |
|--------|-------------------|---------------------------------------|
| 1      | Material          | SS 304 L, SS316L                      |
| 2      | Leak rate         | $1 \times 10^{-9}$ mbar-lit/s or less |
| 3      | Electro polishing | required                              |

Types of flanges and their quantities to be used

| Sr. No | Type            | Quantity | Purpose  |
|--------|-----------------|----------|--|
| 1      | 100 CF to 25 KF | 2        | For mounting of gauge and electrical feed through. (connections can be changed as per requirement) |
| 2      | 63 CF to 25 KF  | 1        | For evacuation of the chamber  |

19) Other small miscellaneous components

| Sr. No | Specification | Requirement              |
|--------|---------------|--------------------------|
| 1      | Material      | As mentioned in drawings |
| 2      | Quantity      | As per BOM in drawings   |



| PART NO. | DESCRIPTION              | QTY | MAT         | REMARKS      |
|----------|--------------------------|-----|-------------|--------------|
| 21       | FOCUSING MIRROR          | 01  | SS316L      |              |
| 20       | ENCODER SCALE            | 02  |             | AS PER SPEC. |
| 19       | ENCODER READ HEAD        | 02  | -           | AS PER SPEC. |
| 18       | COUPLING                 | 02  | -           | AS PER SPEC. |
| 17       | M4X16 SCREW              | 01  | SS316L/304L |              |
| 16       | BALL SCREW ASSLY         | 01  |             |              |
| 15       | VACUUM CHAMBER SUB ASSLY | 01  |             |              |
| 14       | M4 HEX NUT               | 02  | SS316L/304L |              |
| 13       | BUSH                     | 01  | CERAMIC     |              |
| 12       | CERAMIC BEARING          | 04  |             | AS PER SPEC. |
| 11       | MOTOR-2                  |     |             | AS PER SPEC. |
| 10       | MOTOR-1                  | 01  |             | AS PER SPEC. |
| 9        | MOTOR SUPPORT            | 01  | SS316L      |              |
| 8        | SPUR GEAR                | 02  | -           | AS PER SPEC. |
| 7        | LINK                     | 01  | SS316L      |              |
| 6        | REFLECTING MIRROR        | 01  | SS316L      |              |
| 5        | BRACKET                  | 01  | SS316L      |              |
| 4        | PUSH POLE ROD SUB ASSLY  | 01  |             |              |
| 3        | ROTOR FEEDTHROUGH        | 01  |             | AS PER SPEC. |
| 2        | BELLOW                   | 01  |             | AS PER SPEC. |
| 1        | COVER PLATE SUB ASSLY    | 01  |             |              |
|          | DESCRIPTION              |     |             |              |

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**LAUNCHER ASSEMBLY**

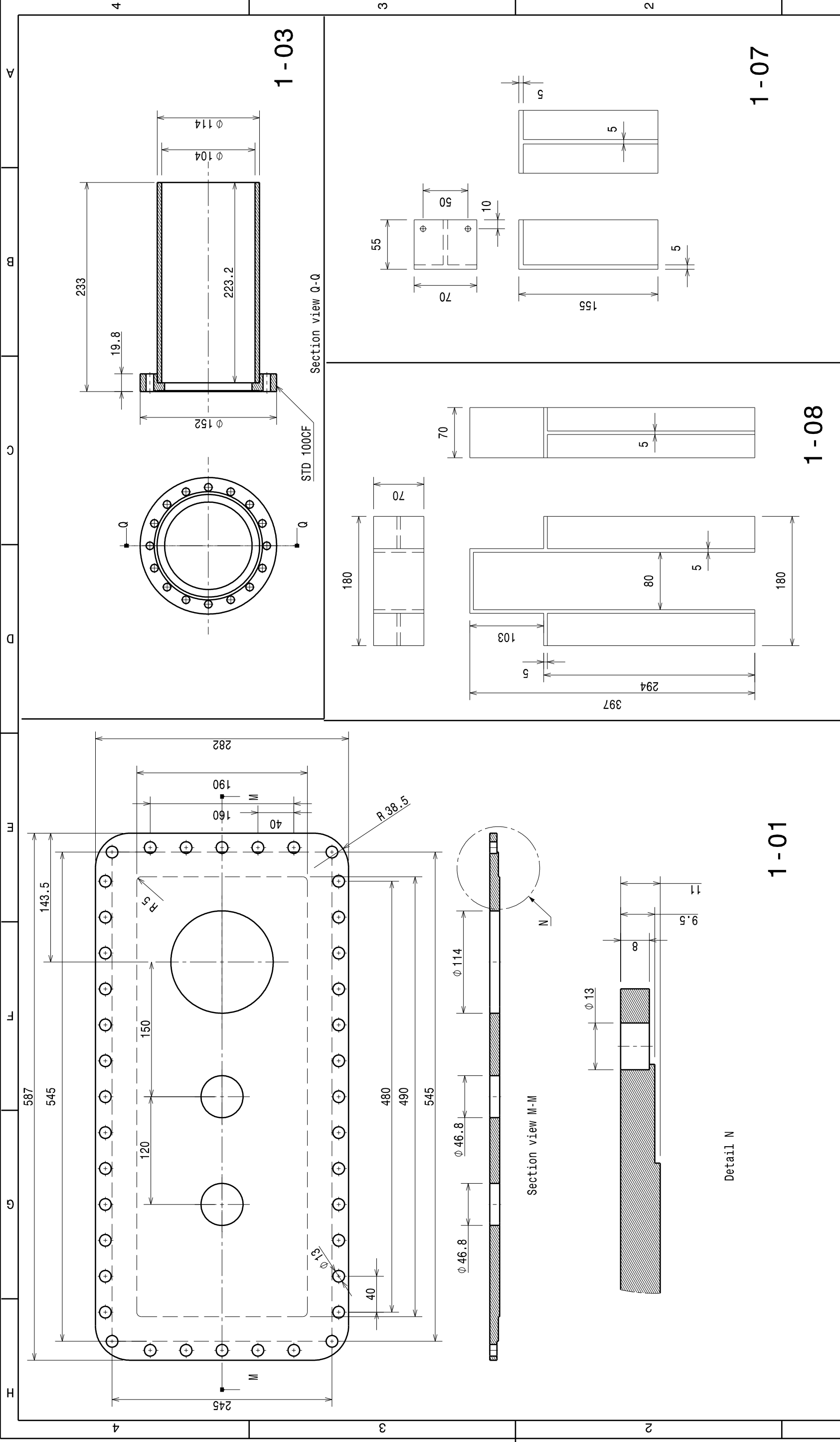
DATE: 03.11.17  
 SCALE: 1:1  
 DRAWN: K.R.R.  
 CHECKED: [ ]  
 APPROVED: [ ]

REF DRG NO: [ ]  
 DRG. NO: IPR/17/A3/ECRH/8078  
 REV: 0  
 SHEET 1 OF 14

| DRG. NO | CO-ORDINATED BY | ▽ 8-25 | ▽▽ 1.6-8 | ▽▽▽ 0.025-1.6 | ▽▽▽▽ < 0.025 | REVISION COLUMN | ASS'Y GROUP:                                       |
|---------|-----------------|--------|----------|---------------|--------------|-----------------|--|
|         |                 |        |          |               |              | DESCRIPTION     | ALL DIMENSIONS ARE IN 'mm' UNLESS OTHERWISE STATED |
|         |                 |        |          |               |              | REV ZONE        | SCALE 1:1  |
|         |                 |        |          |               |              | DATE            | DATE 03.11.17                                      |
|         |                 |        |          |               |              | REMARKS         | DRAWN K.R.R.                                       |
|         |                 |        |          |               |              | APPROVED        | CHECKED  |
|         |                 |        |          |               |              |                 | APPROVED   |

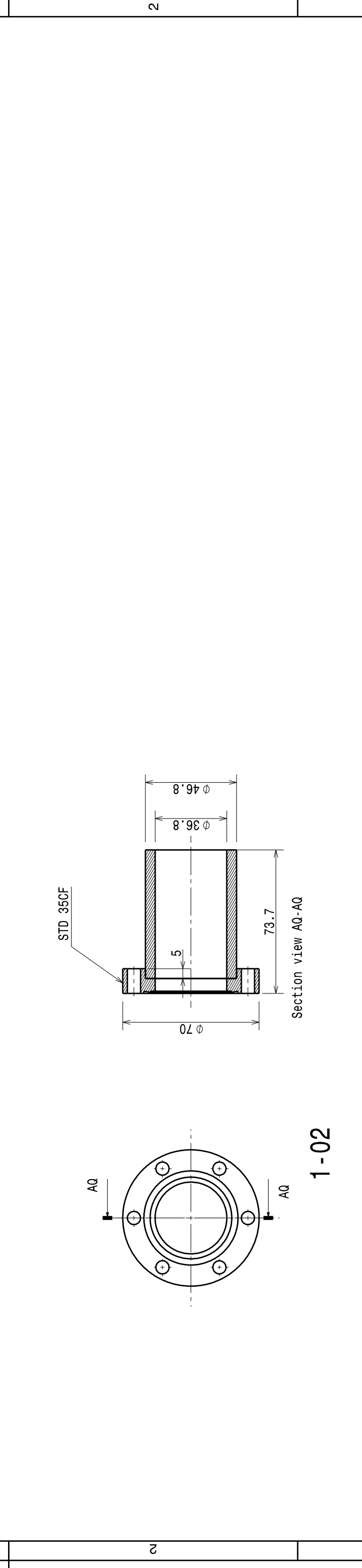
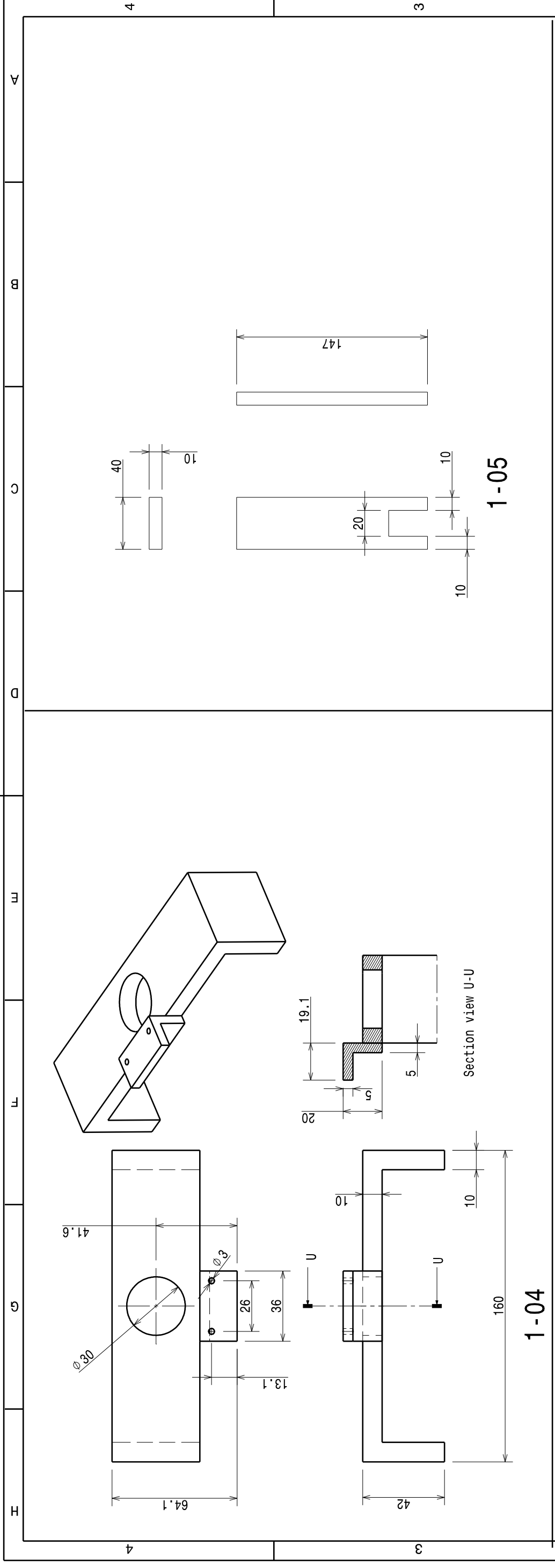
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|  |         |          |               |              |                 |      |              |        |   |          |  |       |        |                     |
|--|---------|----------|---------------|--------------|-----------------|------|--------------|--------|---|----------|--|-------|--------|---------------------|
| DRG. NO  | ▽ 8-25  | ▽▽ 1.6-8 | ▽▽▽ 0.025-1.6 | ▽▽▽▽ < 0.025 | REVISION COLUMN |      | ASS'Y GROUP: |        | <b>Institute for Plasma Research</b><br>ભાવનગર અણુસંશોધન સંસ્થા<br>Bhat, Near Indira Bridge, Gandhinagar, 382428, Gujarat (India) |          |  |       |        |                     |
| CO-ORDINATED BY                                    |         |          |               |              | REV             | ZONE | DESCRIPTION  | DATE   | REMARKS   | APPROVED | ALL DIMENSIONS ARE IN 'mm' UNLESS OTHERWISE STATED |       |        |                     |
| MACHINING DEVIATIONS FOR NON-TOLERANCED DIMENSIONS |         |          |               |              |                 |      |              |        |   |          | SCALE  | 1:1   | DATE   | 01/08/17            |
| LENGTH IN mm OF SHORTER SIDE OF ANGLES             |         |          |               |              | UPTO            | 6    | 6-30         | 30-120 | 120-315   |          |  | DRAWN | K.R.R. |                     |
| UPTO 10  | 10-50   | 50-120   | OVER 120-400  |              | LENGTH          | +0.1 | +0.2         | +0.3   |   |          | CHECKED  |       |        | REF DRG NO:         |
| +1°  | +0°-30' | +0°-20'  | +0°-10'       |              | OR              |      |              |        |   |          | APPROVED   |       |        | DRG. NO             |
|  |         |          |               |              | DIA             |      |              |        |   |          |  |       |        | IPR/17/A3/ECRH/8078 |
|  |         |          |               |              |                 |      |              |        |   |          |  |       |        | REV                 |
|  |         |          |               |              |                 |      |              |        |   |          |  |       |        | 0                   |
|  |         |          |               |              |                 |      |              |        |   |          |  |       |        | SHEET               |
|  |         |          |               |              |                 |      |              |        |   |          |  |       |        | 3 OF 14             |
|  |         |          |               |              |                 |      |              |        |   |          |  |       |        | A                   |

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|--|---------|---------------|---------------|--------------|-----------------|------|--------------|------|---|----------|---------------------|---------------|
| DRG.NO   | ▽ 8-25  | ▽▽ 1.6-8      | ▽▽▽ 0.025-1.6 | ▽▽▽▽ < 0.025 | REVISION COLUMN |      | ASS'Y GROUP: |      | <b>Institute for Plasma Research</b><br>ભાટપ્લોમી અણુસંશ્લેષણ સંસ્થા<br>Bhat, Near Indira Bridge, Gandhinagar 382428, Gujarat (India) |          |                     |               |
| CO-ORDINATED BY                                    |         |               |               |              | REV             | ZONE | DESCRIPTION  | DATE | REMARKS   | APPROVED |                     |               |
| MACHINING DEVIATIONS FOR NON-TOLERANCED DIMENSIONS |         |               |               |              |                 |      |              |      |   |          |                     |               |
| LENGTH IN mm OF SHORTER SIDE OF ANGLES             |         | LENGTH OR DIA |               |              | UPTO 6          |      | 6-30         |      | 30-120  |          | 120-315             |               |
| UPTO 10  | 10-50   | 50-120        | OVER 120-400  |              | +0.1            | +0.2 | +0.3         |      |   |          |                     |               |
| +1'  | +0'-30' | +0'-20'       | +0'-10'       |              |                 |      |              |      |   |          |                     |               |
|  |         |               |               |              |                 |      |              |      | CHECKED   | HARDIK   | REF DRG NO:         | REV 0         |
|  |         |               |               |              |                 |      |              |      | DRAWN   | K.R.R.   | DRG.NO              | SHEET 4 OF 14 |
|  |         |               |               |              |                 |      |              |      | SCALE   | 1:1      | DATE                | 03.11.17      |
|  |         |               |               |              |                 |      |              |      | ALL DIMENSIONS ARE IN 'mm' UNLESS OTHERWISE STATED  |          | TITLE               |               |
|  |         |               |               |              |                 |      |              |      | COVER PLATE SUB. ASLY DETAILS   |          | IPR/17/A3/ECRH/8078 |               |

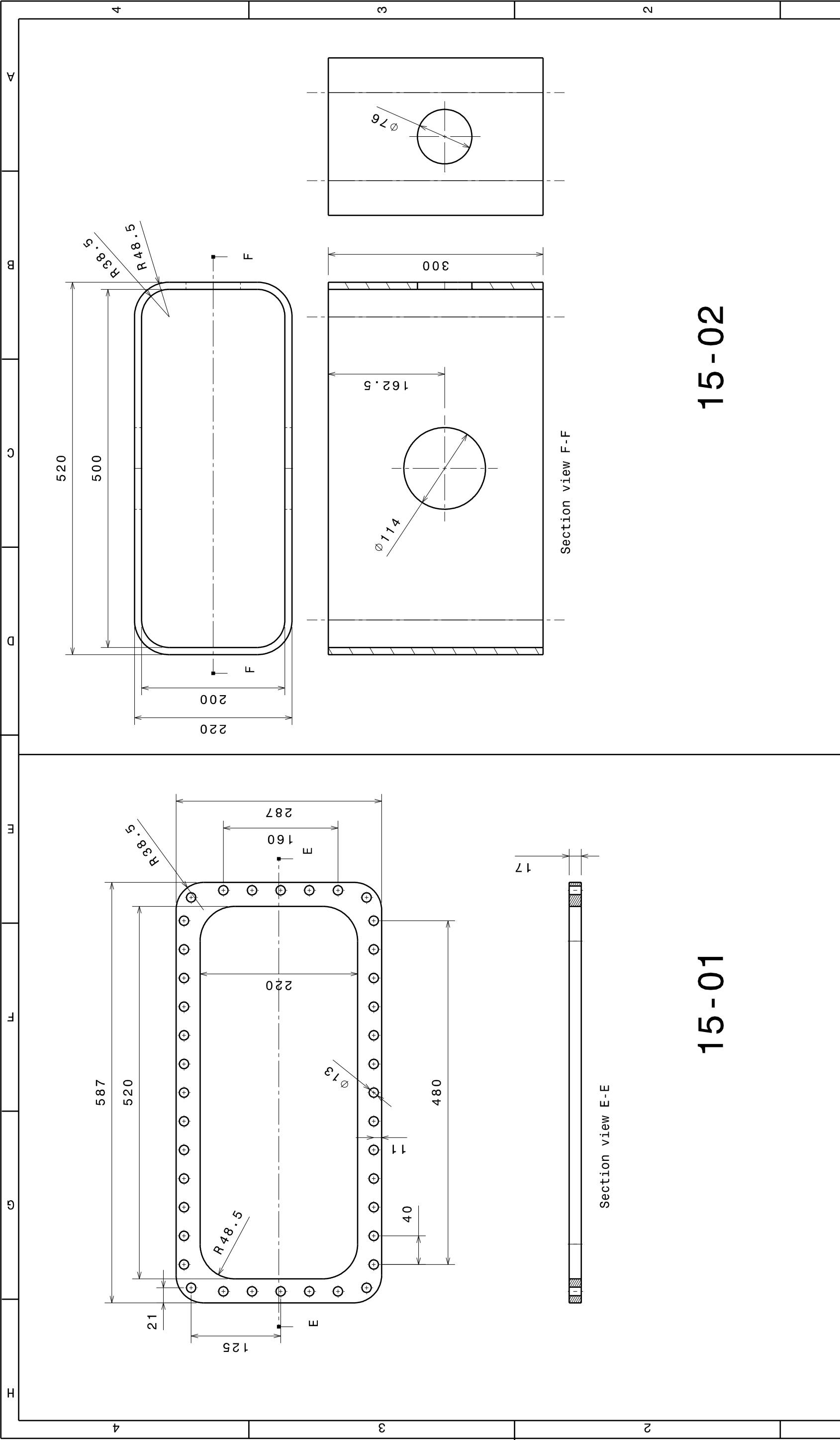
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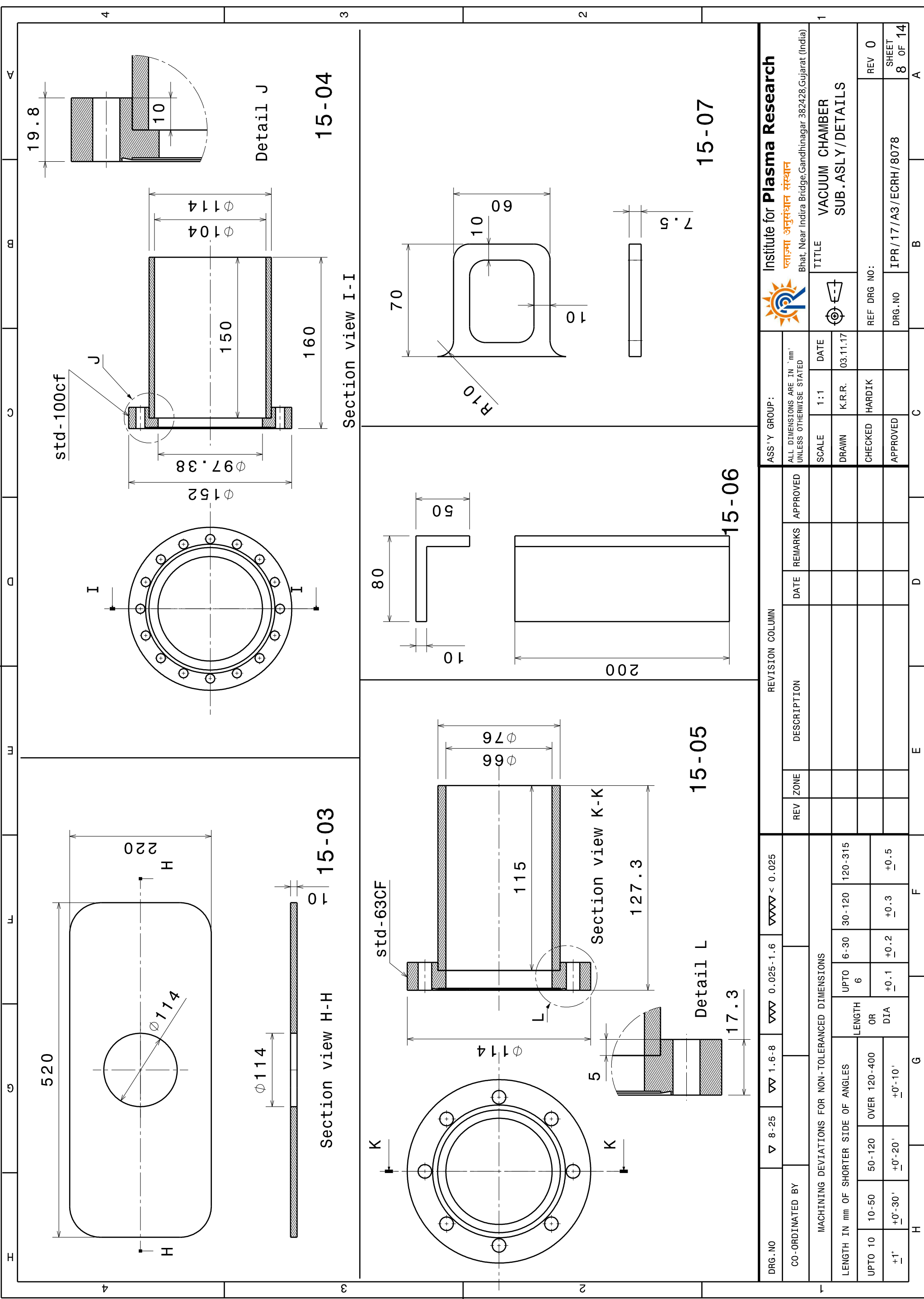




15-01

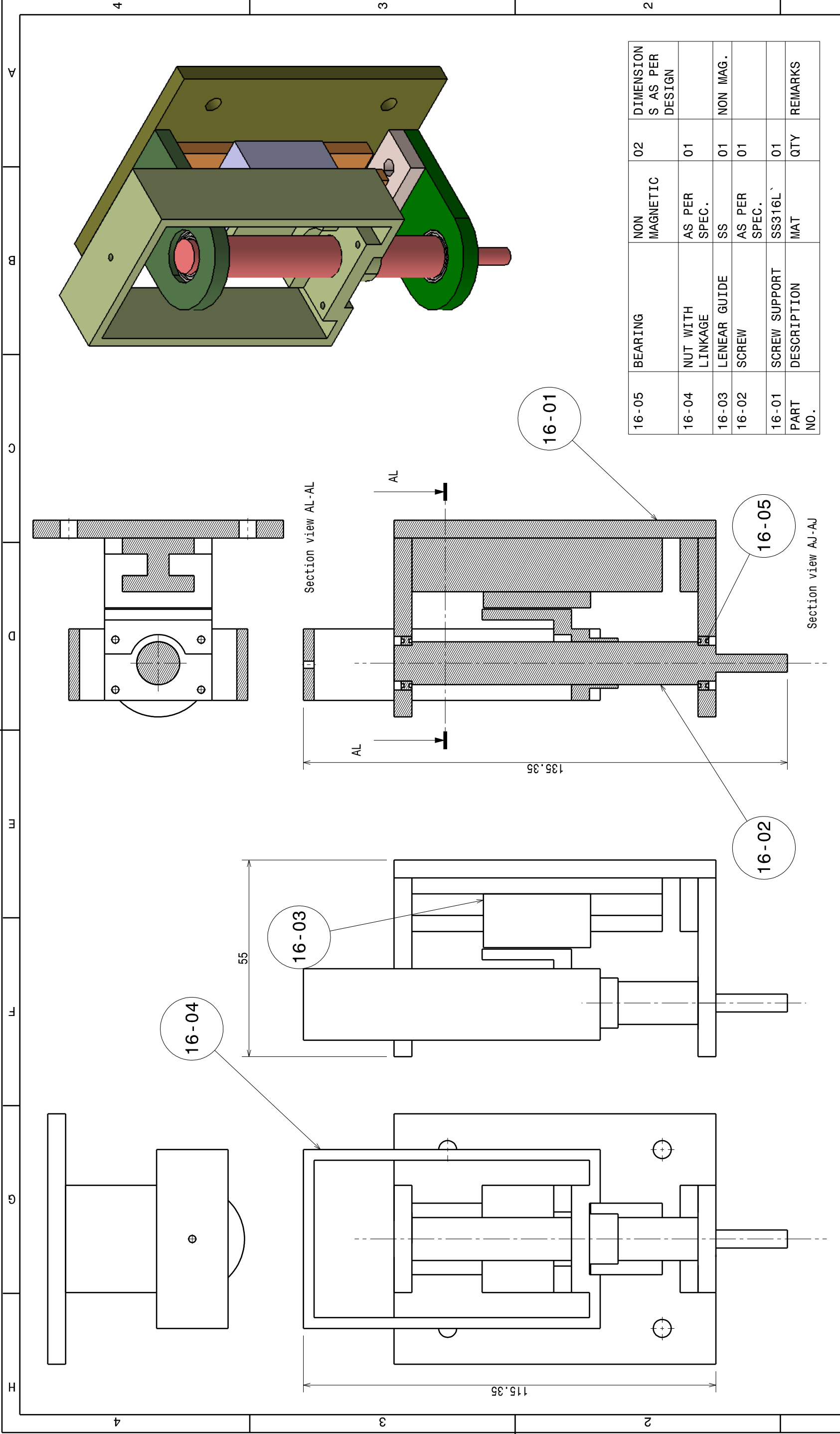
15-02

| DRG.NO   | CO-ORDINATED BY | ▽ 8-25  | ▽▽ 1.6-8     | ▽▽▽ 0.025-1.6 | ▽▽▽▽ < 0.025 | REVISION COLUMN |             |      | ASS 'Y' GROUP: |          |       | Institute for Plasma Research<br>વ્યાજ્ઞા અભ્યુસંધાન સંસ્થાન<br>Bhat, Near Indira Bridge, Gandhinagar, Gandhinagar 382428, Gujarat (India) |                                 |
|--|-----------------|---------|--------------|---------------|--------------|-----------------|-------------|------|----------------|----------|-------|--|---------------------------------|
| MACHINING DEVIATIONS FOR NON-TOLERANCED DIMENSIONS |                 |         |              |               |              | REV ZONE        | DESCRIPTION | DATE | REMARKS        | APPROVED | SCALE | DATE   | TITLE                           |
| LENGTH IN mm OF SHORTER SIDE OF ANGLES             |                 |         |              |               |              |                 |             |      |                |          |       |  | VACUUM CHAMBER SUB-ASLY/DETAILS |
| UPTO 10  | 10-50           | 50-120  | OVER 120-400 |               |              |                 |             |      |                |          |       |  | REF DRG NO:                     |
|  | +0'-30'         | +0'-20' | +0'-10'      |               |              |                 |             |      |                |          |       |  | DRG.NO                          |
|  |                 |         |              |               |              |                 |             |      |                |          |       |  | IPR/17/A3/ECRH/8078             |
|  |                 |         |              |               |              |                 |             |      |                |          |       |  | REV 0                           |
|  |                 |         |              |               |              |                 |             |      |                |          |       |  | SHEET                           |
|  |                 |         |              |               |              |                 |             |      |                |          |       |  | 7 OF 14                         |
|  |                 |         |              |               |              |                 |             |      |                |          |       |  | A                               |



|  |         |         |              |         |                 |                     |              |   |          |          |
|--|---------|---------|--------------|---------|-----------------|---------------------|--------------|---|----------|----------|
| DRG.NO   | ▽ 8-25  | ▽ 1.6-8 | ▽ 0.025-1.6  | ▽ 0.025 | REVISION COLUMN |                     | ASS'Y GROUP: | Institute for Plasma Research<br>ભાતમા અનુસંધાન સંસ્થા<br>Bhat, Near Indira Bridge, Gandhinagar 382428, Gujarat (India) |          |          |
| CO-ORDINATED BY                                    |         |         |              |         | REV ZONE        | DESCRIPTION         | DATE         | REMARKS   | APPROVED |          |
| MACHINING DEVIATIONS FOR NON-TOLERANCED DIMENSIONS |         |         |              |         | REV             | DATE                | SCALE        | 1:1   | DATE     |          |
| LENGTH IN mm OF SHORTER SIDE OF ANGLES             |         |         |              |         | UPTO 6          | 30-120              | 120-315      | DRAWN   | K.R.R.   | 03.11.17 |
| UPTO 10  | 10-50   | 50-120  | OVER 120-400 |         |                 |                     | CHECKED      | HARDIK  |          |          |
| +1°  | +0°-30' | +0°-20' | +0°-10'      |         |                 |                     | APPROVED     |   |          |          |
|  |         |         |              |         | REF DRG NO:     | TITLE               |              | VACUUM CHAMBER<br>SUB.ASLY/DETAILS  |          |          |
|  |         |         |              |         | DRG.NO          | IPR/17/A3/ECRH/8078 |              | REV 0   |          |          |
|  |         |         |              |         | SHEET           |                     | 8 OF 14      |   | A        |          |

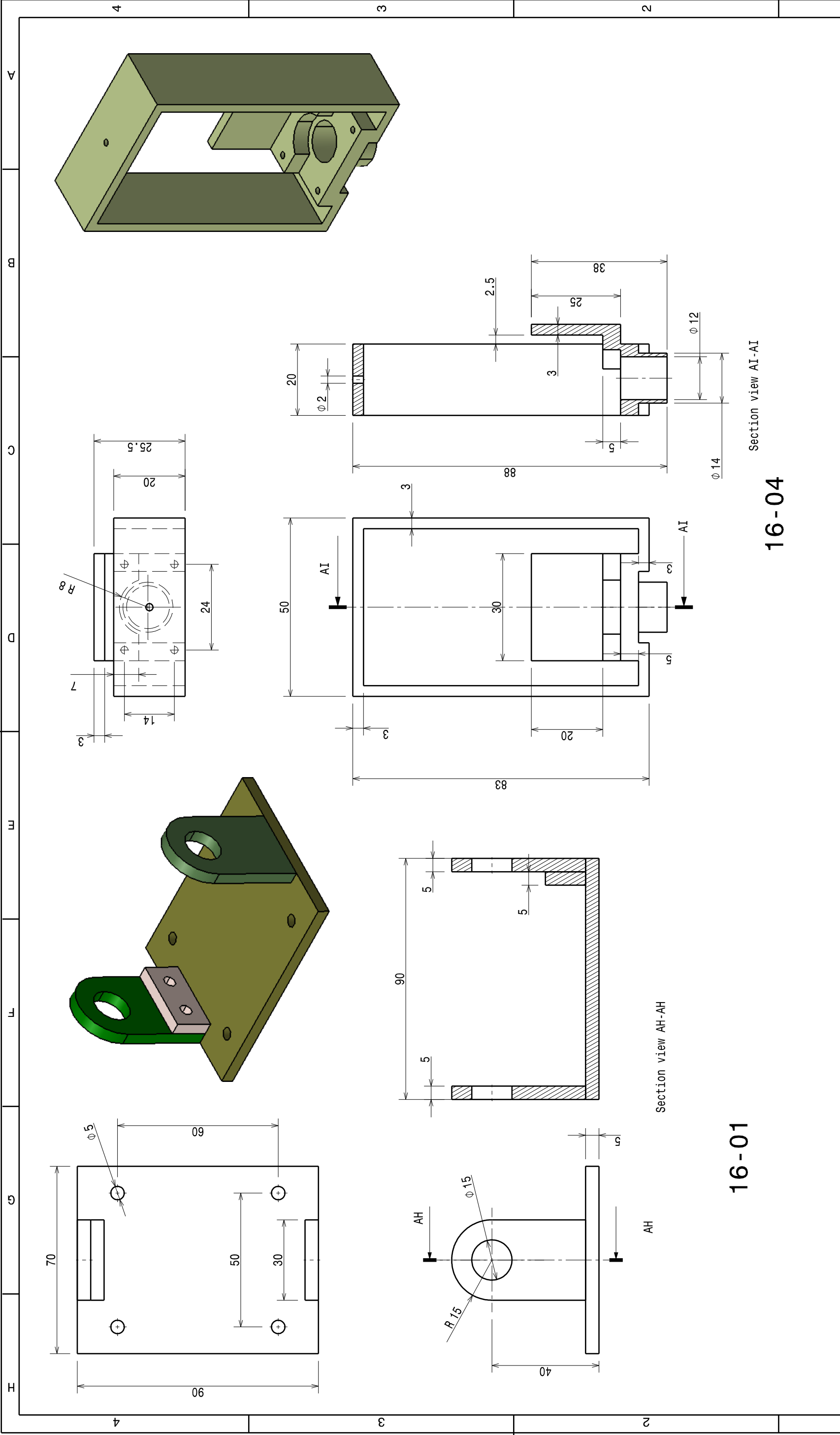
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| 16-05    | BEARING          | NON MAGNETIC | 02  | DIMENSION S AS PER DESIGN |
|----------|------------------|--------------|-----|---------------------------|
| 16-04    | NUT WITH LINKAGE | AS PER SPEC. | 01  |                           |
| 16-03    | LENEAR GUIDE     | SS           | 01  | NON MAG.                  |
| 16-02    | SCREW            | AS PER SPEC. | 01  |                           |
| 16-01    | SCREW SUPPORT    | SS316L       | 01  |                           |
| PART NO. | DESCRIPTION      | MAT          | QTY | REMARKS                   |

|   |  |   |  |                        |  |                         |  |                 |  |                |  |                |  |                 |  |                        |  |
|---|--|---|--|------------------------|--|-------------------------|--|-----------------|--|----------------|--|----------------|--|-----------------|--|------------------------|--|
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| DRG. NO   |  | CO-ORDINATED BY   |  | REV ZONE               |  | DESCRIPTION             |  | DATE            |  | APPROVED       |  | DRAWN          |  | K.R.R.          |  | BALL SCREW SUB ASLY    |  |
| UPTO 10<br>+1°  |  | 10-50<br>+0°-30'  |  | 50-120<br>+0°-20'      |  | OVER 120-400<br>+0°-10' |  | UPTO 6<br>+0.1  |  | 6-30<br>+0.2   |  | 30-120<br>+0.3 |  | 120-315<br>+0.5 |  | REF DRG NO:            |  |
| +1°   |  | +0°-30'   |  | +0°-20'                |  | +0°-10'                 |  | +0.1            |  | +0.2           |  | +0.3           |  | +0.5            |  | IPR/17/A3/ECRH/8078    |  |
| H   |  | G   |  | F                      |  | E                       |  | D               |  | C              |  | B              |  | A               |  | REV 0<br>SHEET 9 OF 14 |  |

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Section view AI-AI

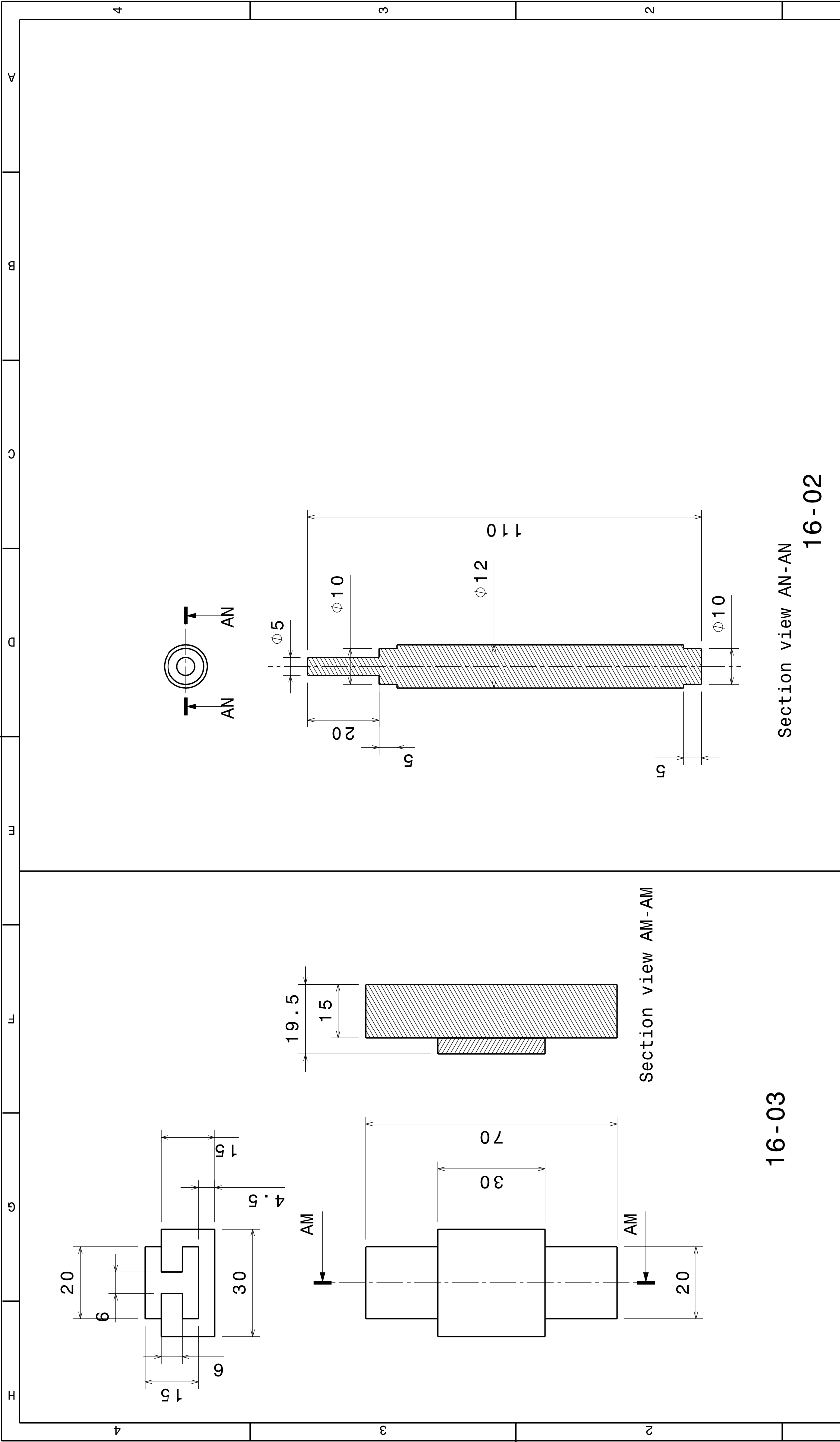
16-04

Section view AH-AH

16-01


| DRG. NO  | CO-ORDINATED BY | ▽ 8-25  | ▽▽ 1.6-8     | ▽▽▽ 0.025-1.6 | ▽▽▽▽ < 0.025 | REVISION COLUMN |      |             | ASS'Y GROUP: |         |          | Institute for Plasma Research |        |         |          |          |                              |                |
|--|-----------------|---------|--------------|---------------|--------------|-----------------|------|-------------|--------------|---------|----------|-------------------------------|--------|---------|----------|----------|------------------------------|----------------|
| MACHINING DEVIATIONS FOR NON-TOLERANCED DIMENSIONS |                 |         |              |               |              | REV             | ZONE | DESCRIPTION | DATE         | REMARKS | APPROVED | SCALE                         | DRAWN  | CHECKED | APPROVED | DATE     | TITLE                        |                |
| LENGTH IN mm OF SHORTER SIDE OF ANGLES             |                 |         |              |               |              |                 |      |             |              |         |          | 1:1                           | K.R.R. |         |          | 03.11.17 | BALL SCREW SUB ASSLY DETAILS |                |
| UPTO 10  | 10-50           | 50-120  | OVER 120-400 |               |              |                 |      |             |              |         |          |                               |        |         |          |          |                              | REV 0          |
| +1°  | +0°-30'         | +0°-20' | +0°-10'      |               |              |                 |      |             |              |         |          |                               |        |         |          |          |                              | SHEET 10 OF 14 |
|  |                 |         |              |               |              |                 |      |             |              |         |          |                               |        |         |          |          |                              | A              |

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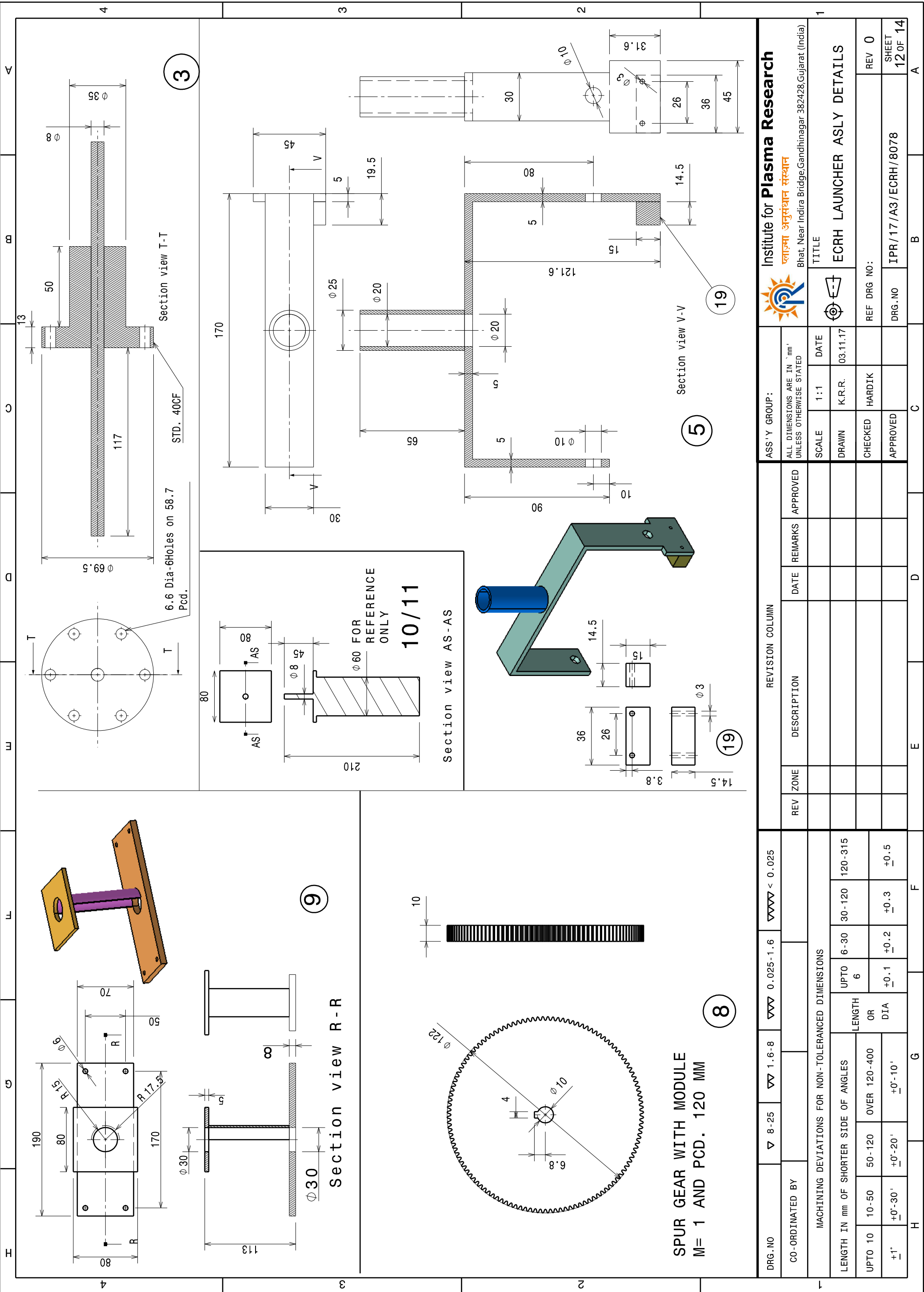


Section view AN-AN  
16-02

Section view AM-AM  
16-03

|  |                 |         |  |             |                 |                 |             |              |         |  |                     |
|--|-----------------|---------|--|-------------|-----------------|-----------------|-------------|--------------|---------|--|---------------------|
| DRG.NO                                 | ▽ 8-25          |         | ▽ 1.6-8  | ▽ 0.025-1.6 | ▽ 0.025 < 0.025 | REVISION COLUMN |             | ASS'Y GROUP: |         |  <b>Institute for Plasma Research</b><br>ભાવનગર અણુસંશ્લેષણ સંસ્થા<br>Bhat, Near Indira Bridge, Gandhinagar 382428, Gujarat (India) |                     |
|  | CO-ORDINATED BY |         | MACHINING DEVIATIONS FOR NON-TOLERANCED DIMENSIONS |             |                 | REV ZONE        | DESCRIPTION | DATE         | REMARKS |  | APPROVED            |
| LENGTH IN mm OF SHORTER SIDE OF ANGLES |                 | UPTO 6  |  |             |                 | LENGTH          |             | SCALE        | 1:1     | DATE   | REF DRG NO:         |
| UPTO 10                                | 10-50           | 50-120  | OVER 120-400                                       | OR          | 6-30            | 30-120          | 120-315     | DRAWN        | K.R.R.  | 03.11.17   |                     |
| +1'                                    | +0'-30'         | +0'-20' | +0'-10'  |             | +0.1            | +0.2            | +0.3        | CHECKED      |         |  |                     |
|  |                 |         |  |             |                 |                 |             | APPROVED     |         |  | IPR/17/A3/ECRH/8078 |
|  |                 |         |  |             |                 |                 |             |              |         |  | REV 0               |
|  |                 |         |  |             |                 |                 |             |              |         |  | SHEET 11 OF 14      |
|  |                 |         |  |             |                 |                 |             |              |         |  | A                   |

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**સ્વાસ્થ્ય અભ્યાસ સંસ્થા**

**શ્રી સુભાષ ચંદ્ર બોસ્**

**શ્રી સુભાષ ચંદ્ર બોસ્**









(This need to be printed in Tenderer's letter head)

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To  
The Purchase Officer  
Institute for Plasma Research  
Near Indira Bridge  
Bhat  
Gandhinagar-382428 (INDIA)

**Ref: Tender Notice No.IPR/TN/PUR/TPT/ET/18-19/39 dated  
19/11/2018**

Dear Sir,

I/We have gone through the tendering conditions pertaining to the Two Part Tender and General Conditions of Contracts and Special Conditions of Contracts contained in Section "B" of Form No: IPR-LP-ET-02.V5. I/We hereby agree to supply the stores conforming to the tender specifications and also agree to abide by your General Conditions of all Contracts and Special Conditions of Contract contained in Section "B" of the Tender document.

- You will be at liberty to accept any one or more of the items of stores offered by us and I/We shall be bound to supply you the stores as may be specified in the Purchase Order/Contract.
- I/We hereby agree to keep the price valid for your acceptance for a period of 120 days from the date of opening of Part-II (Price) of the tender.
- Deviations to technical specifications of the tender documents are detailed in Annexure-A of the tender form while deviations proposed to the General/Special Conditions of Contract are detailed in Annexure "B" to this tender.
- /We are also uploaded all the leaflets/catalogue, etc. pertaining to the stores offered.

Yours faithfully  
Stamp and Signature of the Tenderer

**Institute for Plasma Research**  
**(An Autonomous Institute of Dept. of Atomic Energy)**  
**Bhat, Gandhinagar**

**TERMS & CONDITIONS**

| ITEM DESCRIPTION | <b>Design, fabrication, assembly, testing, inspection and supply of UHV compatible Motorized Manipulation System (Launcher) as per the specifications mentioned in the tender documents</b>  |   |
|------------------|--|---|
| Sl. No.          | PARTICULARS  | REMARKS                                     |
| I                | <b>Name of the Supplier</b>  |   |
| II               | <b>IPR Enquity NO &amp; Date</b>   | IPR/TPT/TN/PUR/ET/18-19/39 DATED 19-11-2018 |
| III              | <b>Vendor Offer No &amp; Date</b>  |   |
| IV               | Postal address   |   |
| V                | Contact with STD code  |   |
| VI               | Fax with STD code  |   |
| VII              | Name of Contact person   |   |
| VIII             | Mobile No.   |   |
| IX               | e-mail ID  |   |
| X                | <b>Currency of offer/quotation</b>   |   |
|                  | <b>SCANNED COPY OF THE BELOW MENTIONED DOCUMENTS NEED TO UPLOAD AT <a href="http://www.tenderwizard.com/DAE">www.tenderwizard.com/DAE</a> AT THE TIME OF PARTICIPATION OF TENDER WITHIN THE PERIOD OF SUBMISSION.</b>  | <b>"YES" OR "NO"</b>                        |
| 1                | <b>Certificates:</b>   |   |
|                  | i) Registration Certificate if Any, with DGS&D/NSIC/MSME   |   |
|                  | ii) PAN (Permanent Account Number) Registration  |   |
|                  | iii) Certificates of Registration for Sales Tax/ VAT/ WCT or Service Tax   |   |
|                  | iv) Authorization certificate/ Agency Agreement from Manufacturer (if not manufacturer)  |   |
|                  | <b>Commercial Terms for Quoted items (Please Provide Commercial terms and conditions in the below form)</b>  |   |
| 2                | Price Shall be firm and fixed through out the currency of contract, in the event of placement of purchase order.   |   |
| 3                | Please select the CURRENCY OF OFFER / QUOTATION first  |   |
| 4                | Have you offered Packing and forwarding charges in the price bid (if applicable)?  |   |
| 5                | Goods and Services Tax: Have you specified HSN / SAC Code for Goods and Services Tax in Price Bid?   |   |
| 6                | Have you offered Freight charges in the price bid?   |   |
| 7                | Have you offered Insurance charges in the price bid?   |   |
| 8                | <b>Delivery period (as per Sr. No.5 of Section-C of Form No. IPR_LP_ET_02.V5 (Terms and Conditions) attached with the tender/enquiry) (Also refer document named "Deferred_terms_IPR_LP_ET_02.V5" for amended delivery terms)</b>  |   |
| 9                | Have you offered Installation and commissioning charges?   |   |
| 10               | Liquidated Damages:- as per <b>Sr. No. 10 of Section B</b> of Form No IPR-LP-ET-02.V5 ( Terms and Conditions) attached with the tender/enquiry   |   |
| 11               | Terms of Payment:- as per Sr. No.35 of Form No. IPR_LP_ET_02.V5 (Terms and Conditions) attached with the tender/enquiry. (Also refer document named "Deferred_terms_IPR_LP_ET_02.V5" for amended payment terms)  |   |
| 12               | Guaranty / Warranty:-as per Sr. No. 34 of Form No. IPR_LP_ET_02.V5 (Terms and Conditions) attached with the tender/enquiry   |   |
| 13               | <b>Validity of offer/quotation:- 120 days from the date of opening of Part-I</b>   |   |
|                  | <b>QUESTIONNAIRE TO BE FILLED BY BIDDER IN AND SENT ALONG WITH OFFER DULY SIGNED</b>   |   |
| 14               | In the event of a purchase order/contract vendor has to provide Security Deposit in the form of Bank Guarantee for 10% of contract/ order value from SBI/nationalized banks or any one of the scheduled banks mentioned in the bracket (Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank) valid till final acceptance of the supplied goods at IPR, wherever applicable shall be submitted . |   |
| 15               | In the event of a purchase order/contract Performance Bank Gurantee for 10% of the contract/order value from SBI/nationalized banks or any one of the scheduled banks mentioned in the bracket (Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank) valid throughout the guarantee period, wherever applicable shall be submitted.   |   |

|    |  |  |
|----|--|--|
| 16 | I/We hereby offer to supply the stores detailed in the schedule hereto at the price given in the said schedule and agree to hold this offer open till expiry of quotation. I/We shall be bound to supply the stores hereby offered upon issue of purchase order communicating the acceptance thereof on or before the expiry of the last mentioned date. You will be at liberty to accept any one or more of the items of stores tendered for or portion of any or more of the items of such stores and I/We notwithstanding that the offer in the tender has not been accepted in whole shall be bound to supply to you- such item or items and such portion or portions of one or more of the items as may be specified in the said Purchase Order communicating the acceptance.   |  |
| 17 | I/we have understood the General Conditions of all Contracts and special conditions of contract governing supplies of plant and machinery in the Form No.IPR_LP_ET_02.V5, included in the General Conditions of all Contracts and special conditions of contract governing of plant and machinery applicable to contracts placed by the Institute for Plasma Research and the instructions to Tenderer annexed to the invitation to tender Form and have thoroughly examined the specification / drawing and / or pattern quoted or referred to in the Schedule hereto and am/are fully aware of the nature of the stores required any my/our offer is to supply stores strictly in accordance with subject tender to the terms and conditions stipulated in your above Form No. IPR_LP_ET_02.V5 and also contained in the Purchase Order Communicating acceptance of this Tender. |  |
| 18 | Whether All Documents Related to tender Viewed?  |  |
| 19 | Vendor should upload the complete technical details (Tehnical specifications with product data sheet   |  |
| 20 | In case of two part tender whether unpriced quotation has been uploaded (Failing which offer will not be considered for technical evaluation)  |  |
| 21 | <b>Free Issue Material:</b> Successful tenderer will have to arrange insurance showing beneficiary as "Institute for Plasma Research" at their risk and cost towards adequate security for the materials/property provided/issued by the Purchaser as Free Issue Material for the due execution of the contract, wherever applicable.  |  |

**Institute for Plasma Research**  
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**Bhat, Gandhinagar**

Eligibility Criteria (Annexure-A)

|                             |  |  |   |
|-----------------------------|--|--|---|
| ITEM<br>DESC<br>RIPTI<br>ON | Design, fabrication, assembly, testing, inspection and supply of UHV compatible Motorized Manipulation System (Launcher) as per the specifications mentioned in the tender documents |  |   |
| SI. No.                     | PARTICULARS  | REMARKS  |   |
| I                           | Name of the Vendor   |  |   |
| II                          | IPR Enquity NO & Date  | IPR/TPT/TN/PUR/ET/18-19/39 DATED 19-11-2018  |   |
| III                         | Vendor Offer No & Date   |  |   |
| Sr. No.                     | Criteria   | Documents required to upload   | Status of Documents (Uploaded/ Not-Uploaded in e-Tender Portal) |
| 1                           | The vendor should have fabricated and successfully supplied Ultra High Vacuum compatible system operating in the vacuum level of $1 \times 10^{-8}$ mbar or better                   | Bidder should submit following documents as a proof.<br>[1] Purchase order of the system<br>[2] Acceptance test results with technical specifications and installation reports |   |

**Note:**

|  |  |
|--|--|
|  | <b>The response to tender without submission of proof of above points will summarily be rejected without further communication</b>                         |
|  | <b>The bidder shall not be under a declaration of ineligibility for corrupt or fraudulent practices or blacklisted with any of the Government agencies</b> |
|  | <b>Original documents shall be produced for verifications, if required.</b>  |

**PRICE SCHEDULE (SECTION-D)**

IPR Enquiry NO & Date : **IPR/TN/PUR/TPT/ET/18-19/39 DATED 19-11-2018**

From

NAME OF THE CONTRACTOR :

Offer no & date:

| Sl.No | Item Description  | Tendered Quantity | Unit of Measurement (UOM) | Rate in INR   |                 |                      |                                | Packing and Forwarding Charges Per Unit (In percentage) |        | Freight Charges Per Unit (In percentage) |        | Insurance per unit (In percentage) |        | Remarks |
|-------|---|-------------------|---------------------------|---------------|-----------------|----------------------|--------------------------------|---|--------|--|--------|------------------------------------|--------|---------|
|       |   |                   |                           | HSN Code (*1) | Basic Unit Rate | Discount (in amount) | Basic Unit rate after discount | (in %) Only   | Amount | (in %) Only                              | Amount | (in %) Only                        | Amount |         |
| 1     | Design, fabrication, assembly, testing, inspection and supply of UHV compatible Motorized Manipulation System (Launcher) as per the specifications mentioned in the tender document | 1                 | System                    |               |                 |                      | 0.00                           |   | 0.00   |  | 0.00   |                                    | 0.00   |         |
| 2     | Re-assembly of above system at IPR site and demonstration of site acceptance tests (including unloading, shifting, handling with accessories)                                       | 1                 | Lumps um                  |               |                 |                      | 0.00                           |   | 0.00   |  | 0.00   |                                    | 0.00   |         |
| 3     | Spares as specified in the technical document - Section-C (Sr.No.10 under Clause No.2 - Technical Requirements)   | 1                 | Lot                       |               |                 |                      | 0.00                           |   | 0.00   |  | 0.00   |                                    | 0.00   |         |
| 4     | <b>Other items (if any)</b>   |                   |                           |               |                 |                      |                                |   | 0.00   |  |        |                                    |        |         |
| a     | Optional Item/ Accessories  |                   |                           |               |                 |                      | 0.00                           |   | 0.00   |  | 0.00   |                                    | 0.00   |         |
| b     | Optional Item/ Accessories  |                   |                           |               |                 |                      | 0.00                           |   | 0.00   |  | 0.00   |                                    | 0.00   |         |
| c     | Optional Item/ Accessories  |                   |                           |               |                 |                      | 0.00                           |   | 0.00   |  | 0.00   |                                    | 0.00   |         |
| d     | Optional Item/ Accessories  |                   |                           |               |                 |                      | 0.00                           |   | 0.00   |  | 0.00   |                                    | 0.00   |         |
| e     | Optional Item/ Accessories  |                   |                           |               |                 |                      | 0.00                           |   | 0.00   |  | 0.00   |                                    | 0.00   |         |

Place of delivery **IPR Gandhinagar**

NOTES:

- (a) If freight is not shown separately it will be treated as "FREE DELIVERY" (applicable for INR Quote)
- (b) Detailed specifications and scope of work are as per Attached Annexure
- (c) If the rate cells are left blank, it will be treated as "0" (ZERO)
- (e) Kindly enable the Macros if you receive the "Security Warning" message. (Click on options in "Security Warning" and select "Enable this content")

- IMPORTANT NOTES:**
- 1) Custom Duty Exemption certificate will not be issued to any bidder under any circumstances.
  - 2) Prices in this bid format alone are acceptable
  - 3) GST (IGST, CGST, SGST or any form) should not be included in the basic cost (Unit Rate Column) for either goods or services
  - 4) Evaluated total cost on the basis of bid prices will be calculated by Purchaser after bid opening & the same will be uploaded in e-tender portal later
- (\*1) HSN/SAC Code: For indigenous goods/services, to be filled by the bidder

- 1) QUOTATIONS ARE INVITED IN INDIAN CURRENCY ONLY.
- 2) QUOTATIONS RECEIVED OTHER THAN "INR" QUOTE SHALL SUMMARILY BE REJECTED.