



प्लाज़्मा अनुसंधान संस्थान
Institute for Plasma Research

Bhat, Gandhinagar 382 428, Gujarat, (India)
भाट, गांधीनगर ३८२ ४२८, गुजरात, (भारत)



Notice Inviting Tender (NIT)

निविदा सूचना TENDER NOTICE NO: IPR/TN/PUR/TPT/ET/22-23/006 दिनांकित DATED 31-08-2022

निदेशक, प्लाज़्मा अनुसंधान संस्थान (आईपीआर) के लिए और उनकी ओर से प्रमुख- क्रय एवं भंडार अनुभाग, प्लाज़्मा अनुसंधान संस्थान, क्रेता की निविदा विनिर्देशों के अनुसार अनुबंध के निष्पादन हेतु दो भाग में ऑनलाइन निविदाएं आमंत्रित करते हैं। निविदा आमंत्रण, निविदा शर्तें, अनुबंध की सामान्य शर्तें, अनुबंध की विशेष शर्तें और अनुबंध की अतिरिक्त शर्तें, यदि कोई हो, जो निविदा के अनुसार अनुबंध को नियंत्रित करेगी, संलग्न हैं।

बोली जमा करने के इच्छुक बोलीदाताओं से अनुरोध है कि वे इस दस्तावेज़ की सामग्री को देखें और सुनिश्चित करें कि निविदा आमंत्रण सूचना में निर्दिष्ट नियत तारीख और समय पर या उससे पहले और तकनीकी विनिर्देशों एवं नियमों और शर्तों के अनुसार बोली ऑनलाइन जमा करें और इसके साथ संलग्न प्रपत्र संख्या **e_IPR-PUR-103A** एवं **e_IPR-PUR-103B** डिजिटल रूप से हस्ताक्षरित या स्याही से हस्ताक्षरित वचनपत्र को अपलोड करें।

ऑफलाइन बोलियां हार्ड कॉपी सहित किसी भी रूप में स्वीकार नहीं की जाएगी।

Head-Purchase and Stores Department, Institute for Plasma Research, for and on behalf of Director, Institute for Plasma Research (IPR) invites online tenders IN **TWO PART** for execution of contract in accordance with the purchaser's tender specifications. The invitation to tender, tendering conditions, general conditions of contract, special conditions of contract and additional conditions of contract, if any, which will govern the contract pursuant to the tender are attached.

Bidders interested to submit bid are requested to go through the contents of the NIT and ensure that the bid is submitted online on or before the due date and time indicated in NIT and as per technical specifications and terms and conditions indicated herein and upload digitally signed or ink signed undertaking of Form Nos. **e_IPR-PUR-103A** and **e_IPR-PUR-103B**.

Off line bids including hard copy in any form will not be accepted.

प्रमुख-खरीद अनुभाग / Head-Purchase Section
निदेशक, आईपीआर के लिए और उनकी ओर से / For and on behalf of Director, IPR
(खरीदार /The Purchaser)

संलग्नक : ऊपर के रूप में। / Encl: as above.



निविदा सूचना TENDER NOTICE NO: IPR/TN/PUR/TPT/ET/22-23/006 दिनांकित DATED 31-08-2022

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 PARTS** through e-tendering mode from reputed and eligible parties for the following.

कार्य/वस्तु विवरण / Work/Item Description	Fabrication, Testing, Supply, Installation & Final Acceptance Tests at IPR of Cryopumping Test Chamber as per the detailed technical specifications mentioned in the tender document – 1 System
निविदा शुल्क / Tender Fee	Not Applicable
बयाना राशि जमा) ईएमडी / (Earnest Money Deposit (EMD)	Rs. 3,60,000.00 (RUPEES THREE LAKHS SIXTY THOUSAND ONLY) Earnest Money Deposit (EMD) must be in the form of Demand Draft drawn in favour of "Institute for Plasma Research" payable at Gandhinagar and a copy thereof must be uploaded along with quotation. Demand Draft shall be sent to "Head-Purchase Section, Institute for Plasma Research, Bhat, Near Indira Bridge, Gandhinagar-382428 in a sealed envelope super scribing boldly Tender Number and Due date, so as to reach before the due date and time. Offers opened without receipt of EMD before due date and time will be rejected. EMD will be forfeited if the bidder withdraws or amends, impairs or derogates from tender in any respect within the period of validity of the tender. Exemption from Payment of EMD : As per Tender Document
प्रकाशन तिथि / Publishing Date	31-08-2022 at 18:00 Hrs.
दस्तावेज डाउनलोड / बिक्री प्रारंभ तिथि / Document Download / Sale Start Date	31-08-2022 at 18:00 Hrs.
स्पष्टीकरण प्रारंभ तिथि / Seek Clarification Start Date	31-08-2022 at 18:00 Hrs.
स्पष्टीकरण समाप्ति तिथि / Seek Clarification End Date	14-09-2022 by 17:00 Hrs.
आईपीआर द्वारा स्पष्टीकरण का जवाब / Response to Clarification by IPR	30-09-2022 by 17:00 Hrs
बोली जमा करने की तिथि / Bid Submission Start Date	01-10-2022 at 10:00 Hrs
बोली जमा करने की अंतिम तिथि / Bid Submission Closing Date	18-10-2022 at 13:00 Hrs
भाग-I (तकनीकी बोली) (के ऑनलाइन खुलने का समय और तिथि / Time and Date of online Opening of PART-I (Technical Bid)	19-10-2022 at 14:00 Hrs
भाग-II के ऑनलाइन खुलने का समय और तिथि) मूल्य बोली / (Time and Date of online Opening of PART-II (Price Bid)	Will be declared later on

पूर्व-बोली पूछताछ की प्राप्ति के बाद **20-09-2022 @ 10:30** बजे पर वीडियो कॉन्फ्रेंस के माध्यम से विक्रेताओं के साथ प्री-बिड मीटिंग आयोजित की जाएगी। इच्छुक विक्रेताओं को **18-09-2022** पर या उससे पहले निम्नलिखित लिंक के माध्यम से पूर्व-बोली बैठक में भाग लेने के लिए सबयों को पंजीकृत करना आवश्यक है:

<https://forms.gle/zXDDeaWWUQ7u2cmeQ7>

पासवर्ड के साथ वीडियो कॉन्फ्रेंस के माध्यम से निर्धारित पूर्व-बोली बैठक में शामिल होने के लिए वेब लिंक को उन विक्रेताओं के साथ साझा किया जाएगा, जिन्होंने **19th September, 2022** तक केवल उपरोक्त लिंक के माध्यम से (पूर्व-बोली बैठक भागीदारी के लिए) पंजीकृत किया है। यदि, उन्हें वीडियो कॉन्फ्रेंस में शामिल होने के लिए लिंक प्राप्त नहीं होता है, वे निविदा आमंत्रण अधिकारी से nodalofficer.et@ipr.res.in पर संपर्क कर सकते हैं।

कृपया ध्यान दें कि यदि इस निविदा में किसी भी प्रकार का स्पष्टीकरण आवश्यक हो, चाहे वह तकनीकी है या अन्यथा, तो बोलियां जमा करने से पहले स्पष्टीकरण प्राप्त करना होगा।

पात्रता मानदंड और निविदा दस्तावेज के साथ विस्तृत निविदा सूचना वेबसाइट <https://eprocure.gov.in/eprocure/app> पर निःशुल्क देखने और डाउनलोड करने के लिए उपलब्ध है। ई-निविदा प्रक्रिया में भाग लेने के लिए, उपरोक्त ई-निविदा पोर्टल पर पंजीकृत होना अनिवार्य है और डिजिटल हस्ताक्षर प्रमाणपत्र (कक्षा-III) होना आवश्यक है। नए पंजीकरण/निविदा के लिए, बोलीदाता नीचे दिए गए "ऑनलाइन बोली जमा करने हेतु निर्देश" पढ़ सकते हैं।

इस एनआईटी की एक प्रति संस्थान की वेबसाइट www.ipr.res.in पर भी उपलब्ध है।

Pre-bid meeting with the vendors will be held through Video Conference on **20-09-2022 @ 10:30 Hrs.** onwards after receipt of pre-bid queries. The interested vendors are required to register themselves for participation in the pre-bid meeting through the following link on or before **18-09-2022**:

<https://forms.gle/zXDeaWWUQ7u2cmeQ7>

The web link to join the scheduled pre-bid meeting through Video Conference along with password will be shared with the vendors who have registered themselves through the above link only (for pre-bid meeting participation) by **19st September, 2022**. In case, if they do not receive the link to join the video Conference, they may contact the Tender Inviting officer at nodalofficer.et@ipr.res.in

It may please be noted that any clarifications required in this tender either technical or otherwise shall be carried out before submission of bids.

Detailed tender notice along with Eligibility criteria and Tender Document is available on website <https://eprocure.gov.in/eprocure/app> 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, bidders may go through the “**Instructions for Online Bid Submission**” provided as under.

A copy of this NIT is also available on the Institute’s website www.ipr.res.in .

Instructions for Online Bid Submission

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

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

REGISTRATION

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

SEARCHING FOR TENDER DOCUMENTS

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

PREPARATION OF BIDS

- 1) Bidder should take into account any corrigendum published on the tender document before submitting their bids.
- 2) Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
- 3) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF/JPG formats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
- 4) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Space" or "Other Important Documents" area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

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

SUBMISSION OF BIDS

- 1) Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
- 2) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- 3) Bidder has to select the payment option as "offline" to pay the tender fee / EMD as applicable and enter details of the instrument.
- 4) Bidder should prepare the EMD as per the instructions specified in the tender document. The original should be posted/couriered/given in person to the concerned official, latest by the last date of bid submission or as specified in the tender documents. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.
- 5) Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BoQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BoQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.

- 6) The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
- 7) All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid opener's public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 7) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 8) Upon the successful and timely submission of bids (i.e. after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
- 9) The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

ASSISTANCE TO BIDDERS

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

प्लाज्मा अनुसंधान संस्थान
INSTITUTE FOR PLASMA RESEARCH
(भारत सरकार के परमाणु ऊर्जा विभाग का सहायता प्राप्त संस्थान)
(An Aided Institute of Dept. of Atomic Energy, Govt. of India)
इंदीरा ब्रिज के पास, भाट, गांधीनगर – 382428,
NEAR INDIRA BRIDGE, BHAT, GANDHINAGAR-382428

TWO-PART TENDER

INVITATION TO TENDER

Head-Purchase and Stores Department, Institute for Plasma Research, for and on behalf of Director, Institute for Plasma Research (IPR) invites online tenders IN **TWO PART** for execution of contract in accordance with the purchaser's tender specifications. The invitation to tender, tendering conditions, general conditions of contract, special conditions of contract and additional conditions of contract, if any, which will govern the contract pursuant to the tender are attached.

Bidders interested to submit bid are requested to go through the contents of the NIT and ensure that the bid is submitted online on or before the due date and time indicated in NIT and as per technical specifications and terms and conditions indicated herein and upload digitally signed or ink signed undertaking of Form Nos. **e_IPR-PUR-103A** and **e_IPR-PUR-103B**.

Off line bids including hard copy in any form will not be accepted.

Head-Purchase Section
For and on behalf of Director, IPR
(The Purchaser)

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DEFINITIONS AND INTERPRETATION

In the invitation to tender, tendering condition, contract, general conditions of contract and special conditions of contract, unless the context otherwise require the following interpretation shall be valid.

- 1.1 "BID" shall mean the quotation in response to the NIT submitted with EMD, if applicable and within the period mentioned in the NIT.
- 1.2 "BIDDER" means an individual, a firm, a limited liability partnership, a company whether incorporated or not, an association of person or joint venture who has submitted a bid to execute the contract and shall be deemed to include his successors, heirs, executors, administrators and permitted assignees, as the case may be.
- 1.3 "CONSIGNEE" shall mean the authorised representative or officer of the purchaser at the site to whom the stores are required to be delivered in the manner indicated in the contract.
- 1.4 "CONTRACTOR" means a successful bidder with whom a contract agreement has been entered to by the purchaser and shall be deemed to include his successors, heirs, executors, administrators and permitted assignees, as the case may be.
- 1.5 "CONTRACT" or "PURCHASE ORDER" means and comprises of a letter or e- mailor ink signed or digitally signed document issued/sent by the purchaser conveying acceptance of bidder's/contractor's bid submitted in response to the NIT within the validity of the bid and any subsequent amendments/alterations thereto made on the basis of mutual agreement.
- 1.6 "DELIVERY DATE" means date of completion of contract excluding warranty period and its obligations as stipulated in the contract.
- 1.7 "DIRECTOR, INSTITUTE FOR PLASMA RESEARCH" means the Director, Institute for Plasma Research, for the time being in the charge of the Purchase and Stores Department, IPR and includes Head- Purchase & Stores Department, Head- Purchase Section, Purchase Officer-II, Purchase Officer-I, Dy. Officer (Purchase) or Assistant Purchase Officer of the said Institute for Plasma Research or any other officer authorized in writing to execute the contract on behalf of the purchaser.
- 1.8 "EARNEST MONEY DEPOSIT (EMD)" means the deposit made in the form and manner specified in the NIT by the participating bidder towards bid security.
- 1.9 "HINDRANCE" means an event resulting in stoppage or delay of work because of the purchaser as recorded by the contractor and authenticated by the purchaser.
- 1.10 "INSPECTOR" or "QUALITY SURVEYOR" means any engineer/officer nominated and deputed by the purchaser or their appointed consultants or quality surveillance agency or any other person authorized by the purchaser from time to time to act as his representative for the purpose of inspection of stores under the contract.
- 1.11 "Notice Inviting Tender (NIT)" means invitation to tender, tendering condition, general conditions of contract, special conditions of contract, additional conditions of contract, if any and any other document mentioned thereto.
- 1.12 "PARTIES" mean the parties to the contract, i.e., the contractor and the purchaser named in the contract.
- 1.13 "PERFORMANCE SECURITY BANK GUARANTEE (PSDBG)" means the deposit made in the form and manner specified in this document by the contractor towards satisfactory performance of the contract till completion of the warranty period.
- 1.14 "PURCHASER" means Director, Institute for Plasma Research for the time being the Head- Purchase and Stores Department or any other authorized officer and includes his successor or assignees.
- 1.15 "STORES" or "PLANT" means the materials, goods, machinery, plants, equipment or parts thereof specified in the contract which the contractor has agreed under the

contract.

- 1.16 “SUB-CONTRACTOR” means any contractor engaged by the contractor with the prior approval of the purchaser in relation to the contract.

TWO PART TENDER SECTION –A
Invitation to Tender and Tendering Conditions

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1. INVITATION TO TENDER

- 1.1 Head-Purchase and Stores Department, Institute for Plasma Research, for and on behalf of Director, Institute for Plasma Research (IPR), invites bids for execution of contract in accordance with the purchaser's technical specifications. The conditions of contract which will govern the contract pursuant to this tender are available in the NIT. Bidders who are in a position to be submitted online in Two Parts in English language as under:
- 1.2 PART-I (TECHNO-COMMERCIAL): This part of the bid shall include/contain all technical details, technical specifications, drawings submit their bid for the same as per the conditions stipulated in the NIT are requested to submit their bid in a manner and method specified in the NIT.

2 EMD

- 2.1 EMD where called for will have to be submitted by the participating bidder in the form and manner specified in the NIT so as to reach the purchaser at the address mentioned in the NIT on or before the due date and time mentioned in the NIT.
- 2.2 Non receipt of EMD as per Clause no. 2.1 above, will result in rejection of bid without any reference to the bidder, except in cases given under Clause no. 2.3 below.
- 2.3 The following categories of bidders are exempted from submission of EMD:
 - 2.3.1 Bidders having valid registration with Directorate of Purchase and Stores, Department of Atomic Energy;
 - 2.3.2 Micro and Small Enterprises having valid registration with MSME or NSIC or Udyog Aadhaar/ Udyam Aadhar in respect of procurement of goods and services, produced and provided by MSE and startups recognized by Department of Industrial Policy & Promotion (DIPP) are eligible for exemption according to government policies.
 - 2.3.3 Foreign Bidder directly submitting bid (not through their Indian Agent or Indian Counterpart or Indian subsidy) in the currency other than INR.
- 2.4 Forfeiture of EMD
 - 2.4.1 EMD shall be forfeited if the bidder withdraws or amends impairs or derogates from the tender in any respect within the validity of his bid.
 - 2.4.2 If the successful bidder fails to furnish the required Security Deposit/ Performance Security Bank Guarantee (PSDBG), the EMD furnished shall be forfeited.
- 2.5 REFUND OF EMD
 - 2.5.1 EMD of unsuccessful bidders will be returned within thirty days after finalization of the tender or after expiry of validity of their bid, whichever is later.
 - 2.5.2 EMD of successful bidders will be returned within thirty days of submission of security deposit as called for in the contract.

3. MANNER AND METHOD FOR SUBMISSION OF BIDS

- 3.1 All bids in response to this invitation to tender shall, literature, reference to earlier supplies of similar stores along with quantity, time required for submission and approval of drawings, manufacturing and delivery period, inspection/testing procedure, itemized list of spares and quantity recommended by the bidder for purchase, term of price, mode and payment terms, mode of despatch, excluding any price details thereof. The bidder shall note that this part of the bid is purely techno-commercial.
- 3.2 The bidder shall not mention the price of the stores or the financial bid in the uploaded document as Part-I of the bid. If Bidder includes prices of the stores or the financial bid in Part-I (Techno-Commercial) of the bid, such bids will be rejected without any notice to the bidder.

- 3.3 Part-II (Price) of the bid shall be submitted strictly online in accordance with the format provided by the Purchaser.
- 3.4 The bidder shall quote cost of essential accessories and spares specified in the price bid format, wherever asked for, to make their bid complete in all respect as per purchaser's technical specifications in Part-II of bid.
- 3.5 If bidder indicates any changes of any nature of the Techno-Commercial bid or upload any technical document indicating changes of any manner/nature of Techno-Commercial bid in Part-II of the bid; such bids will be rejected without any notice to the bidder.
- 3.6 The bidder will co-relate the prices of stores in Part-II of the bid with the description of the stores indicated in Part-I (Techno-Commercial) of the bid in order to enable the purchaser to identify the prices with the corresponding stores in Part-I (Techno-Commercial) of the bid.
- 3.7 Both Part-I (Techno-Commercial) and Part-II (Price) of the bid should be submitted together online on or before the time and date specified for its submission in the NIT.

4 PRICE

- 4.1 The prices quoted must be FIRM during the currency of the contract.

5 PAYMENT TERMS

- 5.1 Standard payment terms for supplies made against this tender will be as indicated in Form no. IPR-P-100.

6 CONDITIONAL DISCOUNT

- 6.1 In case the bidder offers any conditional discount with regard to acceptance of the bid within a specific period or specific payment terms, delivery date, quantity, etc., the purchaser will not take into consideration such conditional discount while evaluating the bid.

7 VALIDITY OF BIDS

- 7.1 Bids shall be kept valid for acceptance for a period as mentioned in the NIT. Bids with shorter validity period shall be rejected without any notice to the bidder.

8 ONE BID PER BIDDER

- 8.1 Each bidder shall submit only one bid for a tender. All bids of the bidder who submits more than one bid for the same tender; will be rejected without any notice to the bidder.
- 8.2 If a bidder submits bid on behalf of two principals or if the bidder and his sister concern participates in the same tender or such instances where participation of any bidder leads to conflict of interest, the bid will be rejected without any notice to the bidder.

9 QUALIFYING REQUIREMENTS

- 9.1 The bidder is required to upload all supporting documents/information on the e- tender portal necessary for establishing their qualification as mentioned in the NIT.

10 PRE-BID MEETING

- 10.1 A pre-bid meeting for providing clarifications to the bidder will be held on-line unless otherwise specified, on the date and time mentioned in the NIT. Bidders participating in this tender and who have enrolled in our e-tender portal (<https://eprocure.gov.in/eprocure/app>) can login and upload their queries. Bidders are requested to upload their queries both Technical and Commercial well in advance at the eTender portal within the due date and time prescribed for the submission of queries. Queries/clarification/information sought in any other manner shall be ignored. Any modification to the tender, which may become necessary as a result of the pre-bid meeting, will be uploaded on the e-tender portal against the particular Tender ID. Bidders are requested to update themselves by visiting e-tender portal

<https://eprocure.gov.in/eprocure/app> frequently. It may be noted that no queries will be entertained after the date and time for submission of queries. Therefore, bidders in their own interest should participate in the pre-bid meeting to understand the tendered requirements.

11 OPENING OF BID

- 11.1 Unless otherwise preponed or postponed, bids will be opened online in two stages on the date and time indicated in the NIT.
- 11.2 Part-I (Techno-Commercial) of the bid will be opened at the first stage on the due date and time indicated for opening in this NIT.
- 11.3 All the bidders who have submitted bids within the due date and time specified for its submission can view the list of bidders who have participated in the tender online after opening of the tender.
- 11.4 After completion of the evaluation of the Part-I (Techno-Commercial) of the bid, the due date and time for opening of Part-II (Price) of the bid shall be intimated to the bidders whose bids are found technically acceptable to the purchaser. The due date and time will also be displayed on the e-tender portal.
- 11.5 Part-II (Price) of the bid, whose Part-I of the bid is found to be techno-commercially acceptable to the Purchaser can be viewed.

12 DECLARATION OF HOLIDAY

- 12.1 If the date(s) specified for opening of the bid is/are declared as holidays due to any administrative reasons, then the due date(s) for receipt/opening of bid will get postponed to the next working day.

13 EVALUATION OF BIDS

13.1 TECHNICAL CLARIFICATION

After opening the Part – I (Techno-Commercial) of the bid, if it becomes necessary for the technical authorities/user department of the purchaser to seek clarifications from the bidder, the same will be sought for from the bidder by the Purchase Section. In such an event, the bidder shall furnish all techno-commercial information/clarification to the Purchase Section to reach them on or before the due date and time fixed by the Purchaser. If the techno-commercial clarifications/details sought for by the Purchase Section from the bidder do not reach them on or before the due date and time fixed for its receipt, such bid will be liable for rejection at the discretion of the purchaser without any further notice. The bidder shall not, however, furnish a new bid at this stage. A new bid at this stage will be rejected by the purchaser.

- 13.2 Evaluation of bids shall be based on technical specification attached with tender and on the basis of total landed cost considering taxes/duties as applicable without any concession/exemption.

13.3 DETERMINATION OF TOTAL LANDED COST FOR COMPARISON (AIR/SEA SHIPMENTS)

- 13.3.1 The following will be the loading for air/sea freight

13.3.1.1 FCA/FOB price + air/sea freight @10% of FCA/FOB price = CFR price

13.3.1.2 CFR price + insurance @ 1% of CFR price= CIF price

13.3.1.3 CIF price + taxes & duties as applicable =DDP

13.3.1.4 [DDP + clearing charges @ 1% of CIF price + inland freight @ 1% of CIF price] x exchange rate = total landed cost in INR

Exchange rate means Purchase price of the quoted currency as intimated by State Bank of India and as applicable on the date of opening of bid.

13.4 CAPACITY AND FINANCIAL CAPABILITY

- 13.4.1 In case it is found that the bidder does not possess the requisite infrastructure, capacity, capability and their financial capability satisfactory or not meeting the qualification criteria indicated in the NIT or not complied with warranty obligations; such bids are liable to be rejected by the purchaser during evaluation of bid.

13.5 PAST PERFORMANCE

- 13.5.1 In case the past performance of the bidder is not found to be satisfactory with regard to quality, delivery date, warranty obligation and compliance of terms and conditions of the contract, their bid is liable to be rejected by the purchaser during evaluation of bid.

13.6 POST SUPPLY INSPECTION

- 13.6.1 The bidder should clearly mention requirement of post supply inspection in the bid. The purchaser reserves the right to deny access to the contractor or its representative or any third party to the Stores supplied by the contractor after its supply. Bids which are not complying with this post supply inspection requirement are liable to be rejected by the purchaser during evaluation of bid.

14 QUANTITY

- 14.1 Quantities mentioned in the NIT are approximate. 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 by the purchaser. A bidder shall be bound to supply to the purchaser such an item or items or such portion or portions of one or more of the items as may be accepted by the purchaser.

15 INSTALLATION/ERECTION AND COMMISSIONING

- 15.1 Wherever, the purchaser's NIT includes installation and commissioning or supervision of installation and commissioning or erection and commissioning of the stores by the bidder, the bidder must clearly and separately quote the prices for the supply of the Stores and the charges for installation and commissioning or its supervision or erection and commissioning, as the case may be.
- 15.2 The bidder should not include charges towards installation and commissioning or its supervision or erection and commissioning in the price of the stores offered. In case of failure to quote separately, purchaser will deduct taxes as applicable on full contract value.
- 15.3 In respect of contracts involving installation and commissioning or its supervision or erection and commissioning by the contractor where identifiable charges for the same have been quoted, the contractor shall bear the tax liability as per the rates prevailing at the time of undertaking the job in accordance with the relevant Act/Laws in force in India.
- 15.4 When 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.

16 TEST CERTIFICATE

- 16.1 Wherever the tests and test certificates are required by the purchaser, test shall be conducted and test certificate shall be furnished by the contractor as per the requirement of technical specification.

17 OPERATION/INSTRUCTION MANUAL:

- 17.1 In respect of stores where instruction/operation manual is essential to enable the purchaser to put the stores into proper use, the contractor shall furnish such instruction/operation manual in English language along with the stores free of cost.

18 LEAFLET/CATALOGUE:

- 18.1 Bidder shall upload all necessary catalogues/drawings technical literature data sheet as are considered essential for full and correct evaluation of their technical bid. The bids are liable to be ignored if this condition is not complied with.

19 ACCEPTANCE OF BID

- 19.1 The purchaser shall be under no obligation to accept the lowest or any other bid and shall be entitled to accept or reject any bid in part or full without assigning any reasons whatsoever.
- 19.2 The purchaser also reserves the right to reject the bid, which is not in conformity with the conditions contained in this document or the instructions to bidders attached in NIT, if any including non-acceptance of submission of securities as called for in the NIT.

Clauses 20.0 to 24.0 are applicable only for bids quoted in INDIAN RUPEES.

20 STATUTORY LEVIES SUCH AS GOODS AND SERVICE TAX

- 20.1 Statutory levies at rate applicable for the purchaser within original delivery date will be admitted by the purchaser.
- 20.2 **GOODS AND SERVICE TAX**
- 20.2.1 The purchaser is entitled for GST at the concessional rate as per notifications issued by the Government, as amended from time to time, in respect of purchases made for certain stores.
- 20.3 Decision to avail concession/exemption, in each case will be at the sole discretion of the purchaser. Wherever concession/exemption is mentioned in the contract, purchaser will provide the relevant certificate to the contractor. It would be the responsibility of the contractor to obtain the same from the purchaser before effecting the delivery of stores failing which the excess tax paid by the contractor shall not be reimbursed by the purchaser.

21 CUSTOMS DUTY

- 21.1 In case an Indian bidder submits a bid for supply of outrightly imported stores in Indian Rupees, they should quote price for free and safe delivery of stores at destination. The name of their foreign contractor and country of origin shall also be indicated. However, purchaser will neither provide any certificate for availing concession/exemption from payment of customs duty nor will reimburse the same.
- 21.2 Bids on High Sea sales basis will not be considered.

22 FLUCTUATION IN THE STATUTORY LEVIES

- 22.1 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 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.

23 AUTHENTICATION

- 23.1 The person digitally signing and uploading the bid or any other document in respect of the tender on behalf of the bidder shall be deemed to warrant that he has the authority to do so and the action will be binding on the bidder. The bidder shall indemnify the purchaser from any consequences arising thereof.
- 23.2 Overseas bidder should also refer Clause No. 46.1 of this Section for details on obtaining digital signature certificate valid in India.
- 23.3 If, on enquiry or later on, it appears that the persons so signing had no authority to do so, the purchaser may, without prejudice to other civil and criminal remedies, cancel the contract and hold the bidder and signatory liable jointly and severally for all costs

and damages.

24 DELIVERY OF STORES FOR CONTRACT IN INDIAN CURRENCY

- 24.1 Bidder should note that the bid is liable for rejection by the purchaser unless the bidder offers to complete the contract within the delivery date specified by the purchaser. The prices quoted by the bidder should include all charges involved for direct and safe delivery of the stores to the place of delivery indicated by the purchaser. Purchaser will neither undertake responsibility for transit insurance nor pay for it separately. The bidder shall quote as per the delivery terms stated in the NIT.
- 24.2 The stores shall neither be despatched under 'purchaser's risk' nor consigned to 'self', but only to the consignee indicated in the contract. Non-adherence to this condition shall make the contractor liable to bear all consequential penalties/expenses such as demurrage, wharfage, etc. which the purchaser may incur.
- 24.3 The consignee will, as soon as possible, but not later than thirty 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 stores as is appropriate, free of all charges. In case it is desired by the contractor for returning of the stores to them, all expenses towards transportation, etc. will be borne by the contractor and the contractor will also furnish bank guarantee as per format in Annexure for the payment already made by the purchaser to the contractor on this account, if any.

25. DOCUMENTS TO BE UPLOADED BY INDIAN BIDDER

- 25.1 Indian bidders are required to upload a copy of the PAN card/letter and copy of the factory registration/licence or shop establishment certificate/GSTIN etc. as applicable with the bid.

26. PURCHASE/PRICE PREFERENCE

- 26.1 Purchase/price preference to industries will be given as per the policy of the Government of India in force at the time of opening of bids provided their bid is in compliance with the conditions of the policy.

26.2. PURCHASE PREFERENCE FOR MICRO & SMALL ENTERPRISES (MSE's):

- 26.2.1. Benefits, as prescribed by the MSME Policy of the Government of India shall be provided to MSE vendors registered as manufacturers for the goods procured or for the service providers for services to this Department. The procuring Entity reserves its option to give price preference to Micro and Small Industries in comparison to the large-scale industries as per policies of the Government from time to time.

26.3. MAKE IN INDIA:

- 26.3.1. As defined under the Public Procurement (Preference to Make in India), order 2017, Revised order dated: 16/09/2020 or as being revised from time to time, in procurement of goods or services in respect of which the Nodal Ministry/Department has communicated, that there is sufficient local capacity and local competition, only "Class-I local supplier", as defined under the said order, shall be eligible to bid irrespective of purchase value.
- 26.3.2. Only "Class-I local supplier" and "Class-II local supplier", as defined under the above said order, shall be eligible to bid in procurements under taken by this Directorate, except where the mode of procurement is by issue of Global Tender Enquiry. The bidding supplier shall indicate the percentage of local content for the item being offered in their bid.
- 26.3.3. Where the procurement is by issue of Global Tender enquiry, Non local suppliers, shall also be eligible to bid along with "Class-I local suppliers and Class-II local suppliers". Suppliers/bidders offering imported products will fall under the category of Non-local suppliers.

- 26.3.4. Subject to the provisions of the above said order, and to any specific instructions issued by the Nodal Ministry or in pursuance of the said order, purchase preference shall be given to “Class-I local Suppliers” in procurements under taken by this Directorate, in the manner specified there in the order.
- 26.3.5. The bidders along with their bid/tender shall be required to provide a self-declaration certificate of the local content (where the procurement value is Rs.10 Crore or less) for the item offered and their status as Class-I/Class-II/Non-Local supplier and their eligibility to participate in the tender as per Annexure-XI failing which bid will be rejected. In cases of procurement for a value in excess of Rs.10 crores, the “Class-I local supplier”/“Class-II local supplier” shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of Contractors other than companies) giving the percentage of local content.
- 26.3.6. Self-declaration certificate should quantify the percentage of local content of the offered product only. It should also indicate the location. However, claiming the services such as transportation, insurance, installation & commissioning, training and after sale service support like AMC/CMC etc., shall not be considered as local content as per OM N.P-45021/102/2019-BE-II-Part(1)(E-50310) dated:4/03/2021 issued by Ministry of Commerce and Industry, DPIIT.
- 26.3.7. False declarations/violation of this order terms shall be deemed to be breach of code of integrity resulting in debarment of the firm for a period up to 2 years. Under such circumstances, the supplier shall not be considered for any preferences as proposed in the order.
- 26.3.8. Wherever the bids are received without accompanying the above said requisite certificate such offers shall be treated as incomplete and not considered.
- 26.3.9. Bidders/contractors are divided into three categories based on Local Content (The total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent):
- 26.3.9.1. Class-I local supplier is with local content equal to or more than as prescribed by the Nodal Ministry/ NIT, if prescribed, for the item being procured or 50% whichever is higher.
- 26.3.9.2. Class-II Local supplier is with local content more than as prescribed by the Nodal Ministry/NIT, if prescribed, for the item being procured or 20% whichever is higher, but less than that applicable for class-I local supplier.
- 26.3.9.3. Non-local supplier is with local content less than that applicable to class-II local supplier, as stated above.

Note: Where the estimated value of the procurement is less than Rs.5 Lakhs (or as being amended by the competent authority from time to time) is exempted from the provisions of the above Make in India policy as stated therein the order.

26.4. GLOBAL TENDER:

The currency of the price quoted in the bid can be in foreign currencies, in addition to the Indian rupees, except for expenditure incurred in India (Including incidental services rendered in India and agency commission, if any) which should be stated in Indian Rupees.

26.5. ELIGIBILITY OF BIDDERS FROM SPECIFIED COUNTRIES:

- 26.5.1. Orders issued by the Government of India restricting procurement from bidders of certain countries which shares a land border with India shall apply to this procurement.
- 26.5.2. Any bidder from a country which shares a land border with India (<https://mea.gov.in/india-and-neighbours.htm>), excluding countries as listed in the website of Ministry of External Affairs (<https://meadashbaord.gov.in/indicators/92>), to which the Government of India has extended lines of credit or in which the Government of India is engaged in development projects – hereinafter called “Restricted

countries') shall be eligible to bid in this tender only if the bidder is registered (<https://dipp.gov.in/sites/default/files/Revised-Application-Format-for-Registration-of-Bidders-15Oct2020.pdf>) with the Registration committee constituted by the Department for promotion of Industry and Internal Trade(DPIIT) . The bidders shall enclose valid registration certificate along with their offer. Wherever the bids are received without accompanying the above said requisite certificate such offers shall be treated as incomplete and not considered.

Furthermore, every bidder participating against this Department tender shall invariably enclose along with the Bid, a self-declared undertaking "Annexure to Bid Form: Eligibility Declarations" (Annexure-XII), failing which Bid will be rejected.

27. FREE ISSUE MATERIAL (FIM): (This clause shall apply only to contract for supply of fabricated stores with purchaser's FIM)

27.1 Wherever the contract envisage supply of FIM by the purchaser to the Indian contractor for fabrication of the stores, such FIM shall be safeguarded by a Bank Guarantee as per format in Annexure or insurance policy to be provided by the Indian contractor at his own cost for the full value of FIM and the insurance policy or Bank Guarantee shall cover, the following risks specifically and shall be valid for six months beyond the delivery date.

27.2 RISKS TO BE COVERED: Any loss or damage to the FIM 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 objects falling on FIM while in his possession including transit period.

Insured by:	(Name of the contractor)
Beneficiary:	Head- Purchase and Stores Department, Institute for Plasma Research, (On behalf of Director, Institute for Plasma Research), Near Indira Bridge, Bhat Gandhinagar-382428
Amount for which insurance Policy/Bank Guarantee has to be Furnished	The amount will be indicated in the respective contract.

27.3 Notwithstanding the insurance cover taken out by the Indian contractor as above, the contractor shall indemnify the purchaser and keep the purchaser indemnified to the extent of the value of FIM 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 FIM for any job other than the one contracted out in this case and also not indulge in any act, commission or omission or negligence which may cause/result in any loss/damage to the purchaser and in which case, the contractor shall be liable to pay full compensation to the purchaser to the extent of damage/loss as assessed by the purchaser. The decision of the purchaser will be final and accepted by the contractor. The contractor shall be responsible for the safety of the FIM after these are received by him and all through the period during which the materials remain in his possession/control/custody. The FIM on receipt at the contractor's works shall be inspected by him for ensuring safe and correct receipt of FIM. The contractor shall report the discrepancies, if any, to the purchaser immediately but not later than five working days from the date of receipt of FIM. The contractor shall take all necessary precautions against any loss, deterioration, damage or destruction of the FIM from whatever cause arising whilst the said FIM remain in his possession/custody or control. The FIM shall be inspected periodically at regular intervals by the contractor for ensuring safe preservation and storage and maintain inspection report. The contractor shall also not mix up the FIM in question with any other goods and shall render true and proper account of the FIM actually used and return balance/remaining/unused FIM on hand and scrap within the delivery date. If it is not possible to return balance remaining unused FIM on hand and scrap within

the delivery date, the contractor hereby authorizes the purchaser to deduct the difference between the cost of FIM supplied and the cost of FIM actually used from the amount payable to the contractor. The contractor shall also indemnify the purchaser to compensate the difference in cost between the actual replacement cost of FIM lost/damaged and the claim settled in favour of the purchaser by the insurance company. The decision of the purchaser, as to whether the contractor has caused any loss, destruction, damage or deterioration of FIM while in his possession, custody or control from whatever cause arising and also on the quantum of damage suffered by the purchaser, shall be final and binding upon the contractor.

274 Wherever the contract envisage supply of FIM by the purchaser to the foreign contractor for fabrication of the stores, such FIM shall be safeguarded by a Bank Guarantee to be provided by the contractor at his own cost for the full value of FIM and the Bank Guarantee shall cover, the risks mentioned in Clause 27.2 and 27.3 above and shall be valid for six months beyond the delivery date.

275 FIM will be issued to the contractor only after receipt of the insurance policy/Bank Guarantee 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.

28. BIDS FROM INDIAN AGENTS ON BEHALF OF FOREIGN CONTRACTOR

28.1 Indian agents are allowed to quote on behalf of only one foreign contractor against this tender.

28.2 In case the bid is submitted by an Indian bidder or Indian agent on behalf of their foreign contractor, following documents is required to be uploaded with the bid, failing which, bid is liable to be rejected without further notice to the bidder.

28.2.1 Copy of the agency agreement between the principal and the Indian agent showing the percentage or the quantum of agency commission payable and included in the price quoted and a valid letter of authority from the principal authorizing the Indian agent to submit the bid on their behalf should be uploaded with the bid. The agency agreement shall be valid on the date of opening of bid and shall remain valid throughout the currency of contract.

28.2.2 The type and nature of after sales services to be rendered by the Indian agent.

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

29.1 Any contravention of the above-mentioned provisions by the bidder or contractor or its sub-contractor, consultant, adviser or its employees will invite penal consequences under the aforesaid legislations as amended from time to time.

30. PROHIBITION AGAINST USE OF THE NAME OF INSTITUTE FOR PLASMA RESEARCH WITHOUT PERMISSION FOR PUBLICITY PURPOSES

30.1 The bidder or contractor or its sub-contractor, consultant, adviser or its employees or any one claiming on behalf of them shall not use the name of Institute for Plasma Research for any publicity purpose through any public media like Press, Radio, T.V. or Internet without the prior written approval of the purchaser.

31. CONFIDENTIALITY

31.1 The 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 bidder or contractor as the case may be, and should not be disclosed or passed on to any other person/firm without prior written consent of the purchaser. This clause shall also apply to anyone claiming through bidder or contractor, i.e., the sub-contractors, consultants, advisers of the contractor and its employees, etc.

32. CANVASSING

32.1 Canvassing in any form with regard to this tender will lead to rejection of the bid

33. EXPORT LICENCE/EXPORT PERMISSION

33.1 It is entirely the responsibility of the bidder or contractor to obtain export permission/license/authorisation for stores of foreign origin as required from the respective Government before arranging shipment.

33.2 Establishment of letter of credit or similar payment instruments shall be done only after receipt of export license/export permission, if applicable the contract/ purchase order.

33.3 The contractor 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 Stores, while seeking export permission/license. It is, therefore, necessary that the contractor offering stores from foreign countries shall have thorough knowledge of export contract regulations prevalent in those countries.

33.4 Post supply inspection by the contractor or his representative or any third party at purchaser's site, contrary to the terms and conditions of purchaser's contract shall not be permitted.

34. END USE CERTIFICATE

34.1 Whenever an End Use Certificate is desired by the bidder, the same shall be clearly mentioned in the bid and the purchaser shall provide an End Use Certificate as per the format given below. The purchaser will not provide any other document/declaration in this regard.

END USE STATEMENT

"We hereby certify that the item/s i.e..... being procured from M/s..... against our Purchase Order No. IPR/..... 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".

35. COMPLIANCE WITH THE SECURITY REQUIREMENTS OF THE PURCHASER

35.1 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 purchaser's premises, wherever authorized by the purchaser.

36. COUNTRY OF ORIGIN

36.1 Wherever the tenders are for imported stores, the country of origin of the stores must be clearly specified in the bid.

37. TERMS AND CONDITIONS OF THE CONTRACT

37.1 It must be clearly understood that any contract concluded pursuant to this NIT shall be governed by the General, Special and Additional Conditions of the Contract as contained in the NIT. Bidder must, therefore, take special care to go through the NIT. It should also be realized that the General Conditions of Contract, Special Conditions of Contract and Additional Conditions of Contract, if any, contained in NIT is binding and

the bidder is willing to execute the contract as per the purchaser's terms and conditions of contract.

38. SAMPLES

- 38.1 Samples of the offered stores, if called for in the NIT, shall be submitted by the bidder free of all charges indicating purchaser's tender number so as to reach the authorized person on or before the last date of submission of bid and without any obligation of the purchaser as regards acceptance/approval, safe custody or safe- return thereof. Each sample submitted must be clearly labeled with the bidder's name and address and tender number. In the event of non-acceptance of the bid, the bidder shall collect the samples at his own expenses within fifteen days from the date of intimation. In case bidder fails to collect such samples within the designated time, the same will be disposed-off by the purchaser and no claim will be entertained from the bidder for the same. Bids without samples shall be rejected, where these were asked for submission in the NIT.
- 38.2 If the bidder submits the sample with his bid; the same shall not be considered to be part of the stores unless it has been specifically stated in the NIT.
- 38.3 In case supplies of tendered goods are required as per sample available with the purchaser, the purchaser will provide the sample on submission of a deposit as indicated in the NIT, as a standard for bidding and supply, on request. The contractor may send their representative at an address indicated in the NIT for collection of the sample. The purchaser will not be responsible for any delay in receipt/collection of sample by the bidder. It will be the responsibility of the bidder to return the sample without any damage/deterioration as indicated in the NIT. In the event of non-return of the sample in the desired condition within fifteen days from the date of intimation, the purchaser reserves the right to forfeit the deposit of the bidder.

39. DETAILS OF BANKERS

- 39.1 The bidder shall submit along with Part-I (Techno-Commercial Part) of the bid account details, IFSC code, the name and address of his bankers for refund of EMD and payment as applicable.

40. SUBMISSION OF DRAWINGS

- 40.1 The bidder shall upload all drawings pertaining to the stores, wherever called for in the NIT along with Part-I (Techno-Commercial) of bid for correct understanding and evaluation of the bid. Bidder's drawing will form part of the contract only after these are approved by the purchaser.

41. SUB-CONTRACTING

- 41.1 The contractor in the event of his bid being accepted by the purchaser shall not assign/sublet or delegate the contract or any part thereof without the prior written consent of the purchaser. The contractor may without the purchaser's consent purchase such parts, accessories, raw materials etc. from any of the leading and reputed manufacturers in case he does not normally manufacture such items provided these items comply with the technical specifications. However, the contractor shall be solely responsible for the satisfactory execution of the contract irrespective of the fact whether a part or a portion of the contract has been assigned or sublet by him to a sub-contractor even when such sub-contracting has been done with the prior written consent of the purchaser.

42. SHOP/FACTORY EVALUATION, QUALITY SURVEILLANCE/ INSPECTION AND SUBMISSION OF PROGRESS REPORT

- 42.1 The purchaser or his technical authorities may at his option and prior to evaluation of the bid depute his inspector or any quality surveillance agency to the factory/workshop/premises of the bidder or contractor to assess and establish the manufacturing capability etc. of the bidder. Similarly, the purchaser may also depute his inspector/quality surveillance agency for inspection of the stores during the various stages of manufacture. In such an event the contractor shall 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 contract.

43. PACKING

43.1 Contractor shall note that packing for shipment shall be in accordance with the instructions outlined in this NIT. Each package shall be limited to the size and weights that are permissible under the existing air, sea or road cargo limits, as the case may be. Even when no packing specification is included in the NIT, it will be contractor's responsibility to provide appropriate packing depending upon the nature of the supply and the transportation and handling hazards. The stores shall be so packed and protected as not to suffer deterioration, damage or breakage during shipment and storage in a tropical climate.

43.2 Each package shall be properly labeled to indicate the type and quantity of stores it contains, the purchase order number, its dimensions and weight and any other necessary data to identify the stores and relate it to the contract.

43.3 In case of damage of the stores due to inadequate/poor packaging, the purchaser's decision will be final and binding on the contractor. In such cases, the contractor will arrange replacement of such stores at his risk and cost within the delivery date on receipt of written intimation from the purchaser.

44. DEVIATIONS TO PURCHASER'S TECHNICAL SPECIFICATIONS

44.1 If any deviation or substitution from the technical specifications contained in Section "D" to this tender document is involved, such details should be clearly indicated by the bidder in Part-I (Techno-Commercial) and it should be uploaded as an Annexure to Part-I (Techno-commercial) of the bid as otherwise it shall be an admission on the part of the bidder that he will supply the stores as specified by the purchaser. Part-II (Price) should be submitted online in the bid format provided by the purchaser.

45. SETTLEMENT OF COMMERCIAL TERMS AND CONDITIONS OF CONTRACT

45.1 The commercial terms and conditions of sale/contract stipulated in Part-I (Techno-commercial) of the bid submitted by the bidder should be in line with the purchaser's terms and conditions stipulated in the NIT. In case, the bidder does not accept the purchaser's terms and conditions stipulated in the NIT, their bid will be outrightly rejected. The bidder should note that the authority to settle the commercial terms and conditions of contract rests only with the purchaser and any agreement/understanding reached between the bidder and any other authorities will not be valid and binding.

46. PARTICIPATION OF INDIAN/OVERSEAS BIDDER IN THE TENDER

46.1 Indian and overseas bidder can participate in the tender by using digital signature certificate/encryption certificate issued by any licenced certifying authority authorized by Controller of Certifying Authority, India.

47. TERMS OF DELIVERY

47.1 Indian bidders quoting in INR should quote only for safe delivery of stores to the purchaser's consignee.

47.2 Overseas/foreign/Indian bidder quoting in foreign currency should quote on the following INCOTERM basis:-

47.2.1 For air shipment: **FCA at the specified 'Gateway Airport'**, as per list given

47.2.1.1 List of Gateway Airports

Sl. No.	Country	Gateway Airport
1	Argentina	Buenos Aires
2	Australia	Melbourne
3	Austria	Vienna
4	Belgium	Antwerp
5	Canada	Toronto / Montreal
6	China	Beijing
7	Czech Republic	Prague
8	Denmark	Copenhagen
9	Finland	Helsinki
10	France	Paris
11	Germany	Frankfurt
12	Hong Kong	Hong Kong
13	Ireland	Dublin
14	Italy	Rome
15	Japan	Tokyo / Osaka
16	Netherlands	Amsterdam
17	Norway	Oslo
18	Poland	Warsaw
19	Russia	Moscow
20	Singapore	Singapore
21	South Africa	Johannesburg
22	South Korea	Seoul
23	Spain	Barcelona/Madrid
24	Sweden	Stockholm
25	Switzerland	Zurich
26	United Kingdom	London
27	U.S.A.	JFK

47.2.1.2 Since the purchaser has authorized consolidation agents, they will arrange for air-freight from the respective Gateway Airport.

47.2.2 For sea shipment: FOB (Port of despatch)

47.2.2.1 The price quoted shall include the cost of the stores, packing charges, inland transportation charges up to the port of despatch, i.e., major sea ports in country of despatch and loading of the stores on to the ship. The name of the sea port from where the shipment will be made shall also be indicated.

48. AGENCY COMMISSION

48.1 Agency commission payable to the contractor's agents in India, if any, shall be included in the price. Name and address of Indian agent and the percentage of commission payable to them and included in the price shall be clearly indicated. The commission will be paid in INR directly by the purchaser to the Indian agents after final acceptance. The manner and method of payment of agency commission is indicated in the General Conditions of Contract/Special Conditions of Contract.

SECTION 'B'
FORMAT FOR SUBMISSION OF
TENDER

DECLARATION

Part-I (Techno-commercial) of Tender No: _____ **Dated** _____

Bidder's Bid No: _____ **Dated** _____

From,
M/S _____

To,
Head- Purchase and Stores Department
Institute for Plasma Research
Near Indira Bridge; Bhat
Gandhinagar-382428 (INDIA),

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, if any

- a. I/we hereby agree to execute the contract in accordance with the tender specifications incorporated in Section "D" of the tender document also agree to abide by General Conditions of Contract, Special Conditions of Contract contained in Section "C" of the Tender Document and Additional Conditions of Contract, if any.
- b. Purchaser 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 the stores as may be specified in the contract.
- c. I/We hereby agree to keep our above mentioned bid valid for the period mentioned in the NIT.
- d. Deviations to technical specifications contained in Section "D" of the tender documents are detailed in Annexure "A" of the tender form while deviations proposed to General Conditions of Contract and Additional Conditions of Contract, if any, are detailed in Annexure "B" to this tender.
- e. Prices applicable are indicated in the price bid format of the tender.
- f. I/We are also uploading herewith all the leaflet/ catalogue, etc. pertaining to the stores offered.
- g. If I/We withdraw or modify the bid during the period of validity of if I/We are awarded the contract and I/We fail to submit a PSDBG before the deadline mentioned in the contract, I/We shall be suspended for a period of one year from being eligible to submit bids for contracts with Institute for Plasma Research.

Yours faithfully
Bidder
(Digitally signed or ink signed)

DECLARATION

Part-II (Price) of Tender No: _____ **Dated:** _____
Bidder's Bid No: _____ **Dated** _____

From,
M/S _____

To,
Head- Purchase and Stores Department
Institute for Plasma Research
Near Indira Bridge; Bhat
Gandhinagar-382428 (INDIA),

Dear Sir,

In response to purchaser's invitation to tender and as per the tender and contract conditions, the prices applicable for the contract as contained in Part-I (Techno-commercial) of our tender are indicated in the price bid format of the tender.

I/We hereby agree to keep our above mentioned bid valid for the period mentioned in the NIT.

If I/We withdraw or modify the bid during the period of validity or if I/we are awarded the contract and I/We fail to submit a PSDBG before the deadline mentioned in the contract, I/we shall be suspended for a period of one year from being eligible to submit bids for contracts with Institute for Plasma Research.

Yours faithfully
Bidder
(Digitally signed or ink signed)

SECTION 'C'

General Conditions of Contract and Special Conditions of Contract

INSTITUTE FOR PLASMA RESEARCH
(An Aided Institute of Dept. of Atomic Energy, Govt. of India)
NEAR INDIRA BRIDGE, BHAT
GANDHINAGAR-382428

General Conditions of Contract
and Special Conditions of
Contract

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PREAMBLE

While the conditions contained in General Conditions of Contract will apply to all types of contracts, whereas General Conditions of Contract as well as Special Conditions of Contract will apply to contracts for design/manufacture, supply installation and commissioning of the plant/machinery/equipment/instrument as the case may be.

PART-A

GENERAL CONDITIONS OF CONTRACT

1. AUTHORITY OF PERSON SIGNING THE CONTRACT ON BEHALF OF THE CONTRACTOR

The person/s signing or digitally signing the bid or any other document in respect of the bid or contract on behalf of the bidder or contractor shall be deemed to warrant that he has the authority to bind the contractor.

2. DRAWINGS AND SPECIFICATIONS

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

In case any discrepancy is noted in the drawings and/or specifications and 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 his sub-contractor(s).

In case any difference or dispute arises with regard to the true intent and meaning of drawings or specification or in case 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.

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 smaller scale drawings.

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 in writing or as specified in the NIT.

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 etc. what so ever in the drawings or other specifications supplied by him whether such drawings etc. whatsoever have been approved by the purchaser or not, provided that such discrepancies, errors or omissions etc. is not due to inaccurate information or specifications furnished to the contractor on behalf of the purchaser.

3. GENERAL WARRANTY

The stores supplied by the contractor under the contract shall be of best quality and workmanship. The contractor shall execute the contract in accordance with the technical specifications unless any deviation has been expressly specified in the contract and any amendments agreed thereto in writing.

The contractor's bid to execute the contract in accordance with the technical specifications shall be deemed to be an 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 technical specifications of the contract.

4. ALTERATIONS

The purchaser may, in exceptional circumstances, make changes in the drawings, technical specifications and issue additional instructions without altering the contract in any manner provided that the changes will be as far as possible not materially alter the character and scope of the contract.

It shall be lawful for the parties to the contract to alter by mutual consent at any time, the drawings and technical specifications of stores. The stores to be supplied shall be in accordance with such altered drawings and technical specifications from the dates specified by the parties; 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 delivery date 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.

5. PACKING

The contractor shall pack the stores at his own cost sufficiently and properly for transit by air/sea/road as the case may be so as to ensure their being free from loss or damage while in transit to the ultimate destination specified in the contract.

Unless otherwise provided in the contract all containers (including packing cases, boxes, tins, drums and wrappings etc.) 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.

6. INSPECTION

The contractor shall be responsible for and perform all testing required in accordance with the contract and technical specifications included therewith.

The purchaser may at his option depute inspector(s) for inspection of the stores at contractor's works. The contractor shall facilitate such inspection of stores manufactured by him.

The contractor shall give notice of readiness for inspection to the inspector (deputed under Clause 6.2 above) so that the inspector can be present at the requisite time. The contractor shall dispatch stores only after inspector deputed by the purchaser has issued shipping release.

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

The contractor shall provide the drawings, tooling, gauges, instruments etc. and extend all the help required for carrying out the inspection work.

The contractor shall produce an inspection plan to the purchaser's satisfaction notifying check points on the plan. The final inspection shall be conducted as per the approved quality assurance plan.

The contractor shall not supply or deliver the stores unless and until a shipping release or an authorisation for despatch is obtained in the format provided by the purchaser if Pre Despatch Inspection is mentioned in Technical specification. Failure to comply with this instruction as applicable will not only make the contractor ineligible for payment for the supply, but also hold the contractor liable for payment of compensation to the purchaser due to delay in clearance of the stores from the carriers.

If the contractor dispatches stores without obtaining shipping release or authority to dispatch, he will not be entitled to get any payment for such supply, in addition the contractor will pay damages for delayed clearance of the stores from the carrier.

7. SECURITIES

The contractor shall provide the securities in favour of the purchaser in the form of bank guarantees as stated in sub-clauses indicated herein below for a period covering sixty days beyond the completion period mentioned in the contract or such extended period as may be agreed to between the parties, subject to the following conditions:

7.1. Applicable for contracts in INDIAN RUPEE

The bank guarantee should be executed by State Bank of India or any Indian nationalized banker Scheduled Banks as appearing in the second schedule of Reserve Bank of India (other than co-operative and Grameen Banks), on a non-judicial stamp paper of appropriate value as per the purchaser's format.

7.2. Applicable for contracts other than in INDIAN RUPEE having condition for submission of Bank Guarantee by Foreign Contractor.

The bank guarantee should be executed by State Bank of India or any Indian Nationalized banker Scheduled Banks as appearing in the second schedule of Reserve Bank of India (other than co-operative and Grameen Banks) or any Foreign Bank acceptable to the Purchaser. Bank Guarantee drawn from any bank in India shall be on a non-judicial stamp paper of appropriate value whereas Bank Guarantee drawn from Overseas Bank shall be on the Letter Head of the Bank, as per the purchaser's format.

The bank guarantees shall be submitted as per the format available in Annexure.

All bank guarantees are to be sent by the bankers of the contractor directly to the purchaser.

Where the contractor fails to complete the contract within the delivery

date, the contractor shall apply to the purchaser for extension of delivery date of the contract. Such application shall be made before the last date of completion of the contract. The purchaser may at his discretion extend delivery date of the stores under such condition as he may deem fit. All Bank Guarantees so submitted shall also be suitable extended well in time, failing which the purchaser shall have the right to invoke the bank guarantee without prejudice to the terms and conditions of the contract. The contractor shall not supply the material unless the purchaser has extended delivery date of stores in writing

7.3. PERFORMANCE SECURITIES

Contractor shall furnish Performance Security Deposit in the form of bank guarantee for three percent of the value of the contract, including statutory levies, for due performance of the said contract till expiry of warranty period, as per Annexure-I within thirty days from the date of issue of contract in case of Indian Rupee contracts or within thirty days from the date of receipt of Export License by the contractor from respective Government in case of contracts having currency other than Indian Rupee, as the case may be. The Bank Guarantee shall be valid till satisfactory completion of the contract till expiry of warranty period pursuant to General Conditions of Contract, plus a claim period of sixty days from the completion period mentioned in the contract for lodging of claims, if any.

If the contractor fails to provide PSDBG as stated herein above, within thirty days from the date of issue of contract such failure shall constitute a breach of contract and action as deemed fit may be initiated against the contractor.

In case, the contractor fails to fulfill the obligations under the contract; the purchaser shall have the right to invoke and appropriate the PSDBG. This right shall be in addition to and without prejudice to the rights of the purchaser under the terms and conditions of contract

7.4. BANK GUARANTEE FOR FREE ISSUE MATERIAL

Bank Guarantee for Free Issue Material (hereinafter referred to as FIM) (for fabrication of stores at contractor's works outside purchaser's site): The contractor shall submit a Bank Guarantee as per Annexure VIII as applicable to the extent of full value of FIM as security of free issue material issued to the contract or till such time the entire contract is executed and proper account for the FIM is rendered by the contractor to the Purchaser.

8. DELIVERY DATE – TIME IS THE ESSENCE OF CONTRACT

The delivery date stipulated in the contract shall be deemed to be the essence of the contract and the contract must be completed not later than date(s) stipulated therein.

PHASED DELIVERY/MILESTONE

Where the contract envisages phased delivery or completion of milestone, the delivery date for each phase or milestone shall be deemed to be the essence of contract.

Acceptance beyond the delivery date is at the sole discretion of the purchaser and subject to Section C Part A Clause No.10. The contract shall be deemed to be terminated after the expiry of delivery date and subjected to Section C Part A Clause 32.2 and Clause 32.3.

9. ADVANCE INTIMATION OF DELIVERY

Contractors shall send advance intimation to the consignee preferably by e-mail regarding intended delivery of material at least five days prior to the date of delivery of stores to the consignee so as to make proper arrangements for receipt of the stores. If delivery of stores is being carried out by a vehicle, the contractor shall confirm that the driver carries, as on date of delivery, all valid documents, viz., driving license, vehicle registration documents, insurance cover for the vehicle etc. in addition to delivery challan in duplicate along with other documents if any, as per the contract. Failure to carry the valid documents by the driver will result in denial of entry of vehicle inside consignee's premises and the consignee will not be responsible for any consequences thereof.

10. EXTENSION OF DELIVERY DATE

The purchaser will without prejudice to the other rights of the purchaser invoke the following damages for extension of delivery date:

Sl. No.	Delivery Period	Liquidated Damages, Rate per Week	Maximum Amount of Liquidated Damages
1.	Delivery period (as originally stipulated) not exceeding one year	@0.5% of the value of the stores, per week or part thereof	5% of the value of stores.
2.	Delivery period (as originally stipulated) exceeding one year but not exceeding two years.	@ 0.25% of the value of the stores, per week or part thereof.	5% of the value of stores.
3.	Delivery period (as originally stipulated) exceeding two years	@ 0.1% of the value of the stores, per week or part thereof.	5% of the value of stores.

Delivery Period means "The time from date of release of the contract to the date of delivery of stores".

However, the payment of liquidated damages shall not in any way absolve the contractor from any of its obligations and liabilities under the contract.

11. FORECLOSURE OF CONTRACT OR REDUCTION IN SCOPE OF WORK BEFORE DELIVERY DATE

If before the delivery date, the purchaser may at its discretion, decide to abandon or reduce the scope of the contract for any reason whatsoever and does not require the whole or part of the contract to be executed, the purchaser shall give notice of four weeks in writing to that effect to the contractor and the contractor shall act accordingly in the matter. The

contractor shall have no claim for any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the contract in full but which he did not derive in consequence of the foreclosure of the whole or part of the contract.

The contractor shall be paid at contract rates, full amount for part of contract executed and delivered to the purchaser. In addition, a reasonable amount as certified by the purchaser will be paid to the contractor for the stores hereunder mentioned which could not be utilized in the contract to the full extent in view of the foreclosure.

Purchaser shall have the option to take over contractor's materials or any part thereof either bought for execution of the contract or of which the contractor is legally bound to accept delivery from its contractor (for use in the contract). For materials taken over or to be taken over by purchaser, cost of such materials as calculated by purchaser shall be paid. The cost shall, however, take into account purchase price, cost of transportation and deterioration or damage which may have been caused to materials whilst in the custody of the contractor.

If any materials supplied by purchaser are rendered surplus, the same except normal wastage shall be returned by the contractor to purchaser at rates not exceeding those at which these were originally issued, less allowance for any deterioration or damage which may have been caused whilst the materials were in the custody of the contractor. In addition, cost of transporting of such materials from contractor's site to consignee, if so required by purchaser, shall be paid.

The contractor shall, if required by the purchaser, furnish books of accounts and other relevant documents and evidence as may be necessary to enable the purchaser to certify the reasonable amount payable under Clause 11.2 above.

The reasonable amount payable for the stores shall not be in excess of the cost of the contract remaining incomplete on the date of closure, i.e. total stipulated cost excluding taxes of the contract as per accepted tender less the cost of stores actually delivered and also less the cost of contractor's materials at site taken over by the purchaser as above. Provided always that against any payments due to the contractor on this account or otherwise, the purchaser shall be entitled to recover or be credited with any outstanding balances due from the contractor for advance paid in respect of this contract and any other sums which on the date of termination were recoverable by the purchaser from the contractor under the terms of this contract.

12. INSPECTOR'S AUTHORITY

The inspector, wherever deputed by the purchaser under relevant Clauses of the Contract shall have the power:

to certify that the stores are not in accordance with the specifications provided in the contract owing to the adoption of any unsatisfactory method of manufacture, before any Stores or parts thereof are inspected.

to reject any Stores submitted for inspection or part thereof as not being in accordance with the technical specification provided in the contract.

13. RECTIFICATION AND REPLACEMENT OF DEFECTIVE STORES

If the inspector finds that the contractor has executed any unsound or imperfect work, the inspector shall notify such defects to the contractor in writing with thirty days from the date of delivery 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 between the parties as reasonably necessary, proceed to alter, reconstruct or remanufacture the stores to the requisite standard and technical specifications according to the contract.

In case repair/replacement of defective/rejected stores is necessary and becomes essential to return the stores, to the contractor, where full or part payment has already been made by the purchaser, the contractor shall submit bank guarantee for the value of stores so found defective/rejected as per Annexure-V or VI as may be applicable and valid till receipt and acceptance of repaired/replaced/entire stores within fifteen days of intimation. However, the contractor will not be absolved from his responsibility as specified under Section C Part-A Clause No.8.

14. CONSEQUENCE OF REJECTION

If the stores are rejected by the inspector or consignee at the destination and the contractor fails to make satisfactory supplies within the delivery date, then the purchaser may:

Allow the contractor to submit for inspection of fresh stores in replacement of the rejected, within extended delivery period subject to Section C Part A Clause No. 10, the contractor bearing the cost of freight on such replacement without being entitled to any extra payment on that account. OR

Purchaser may take recourse to Section C Part A Clause 8.4.

15. RECOVERY OF SUMS DUE

Whenever any claim for payment arises out of or under this contract against the contractor, the purchaser shall be entitled to recover the sum by appropriating, in part or whole, the security deposited by the contractor or any payment which at any time may become due to the contractor under this or any other contract with the purchaser. If this sum is 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 amount payable to the contractor under the contract including the security deposit shall be withheld till such claims of the purchaser are finally adjudicated upon and paid by the contractor

16. LIEN IN RESPECT OF CLAIMS IN OTHER CONTRACTS

It is agreed that 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 purchaser 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.

It is further 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 the purchaser until the 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.

17. WARRANTY

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 and acceptance of the last lot of stores under the contract at the ultimate destination stipulated in the contract.

In case any defect or deficiency in the stores supplied by the contractor under the contract appear to be discovered within twelve months from the date of receipt and acceptance of the stores in India, the contractor upon notification of such defects or deficiency by purchaser, shall forthwith take measure to rectify every such defect, deficiency or failure without any cost to the purchaser.

In case the contractor opts for return of stores for rectification/repair at their works, contractor shall furnish bank guarantee for the cost of stores as per Annexure-V or VI (as applicable) valid till acceptance of rectified/repared Stores. Further the warranty period will get extended for the period the Stores were not available to the purchaser for his use. If the contractor, after such notification, makes default or delay in rectifying all such defects, deficiencies or failure to the satisfaction of the purchaser, the purchaser may take recourse to the remedies provided for in Section C Part-A Clause no. 11 and 14.

18. PERMIT AND LICENSES

The contractor shall secure and pay for all licenses and permit at his end which he may be required to comply with all laws, ordinances and regulations etc. 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 from against all claims for damages and liability which may arise out of the failure of the contractor to secure and pay for any such licenses and permits and/or to comply fully with any and all applicable laws ordinances and regulations etc.

19. PATENT INDEMNIFICATION

The contractor shall indemnify and keep the purchaser indemnified from and against any and all claims, actions, costs, charges and expenses arising from or for infringement of patent rights, copyright or other protected rights, etc. of any design plans, diagrams, drawings in respect of the stores supplied by the contractor or any of the manufacturing methods or process adopted by contractor for the Stores supplied under the contract.

In the event of any claim being made or action being taken against the purchaser in respect of the matter referred to in Clause No. 19.1 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 there from.

In the event of any designs, drawing, plans or diagrams or any manufacturing methods or process furnished by the contractor etc. constituting infringement of patent or any other protected rights etc. 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.

The provision of the Clause remains effective and binding upon the contractor even after the completion, expiration or termination of the contract.

20. MODE AND DOCUMENTATION OF PAYMENT

20.1. Payment for contracts in currency other than INDIAN RUPEES

Unless otherwise specified elsewhere, payment in full (excluding the amount of the commission included in the price payable directly by the purchaser to the Indian agent) shall be made by wire transfer within thirty days of final acceptance of stores.

The following documents are required to be sent to the purchaser immediately after shipment of consignment:

- 20.1.1. Bill of Lading/Negotiable Airway Bill evidencing shipment
- 20.1.2. Invoice for the shipment : Four copies
- 20.1.3. Packing list : Four copies
- 20.1.4. Shipping release from inspector or quality surveillance agency nominated by the purchaser for the purpose of inspection: Four copies, if applicable.
- 20.1.5. Shipping authorization from purchaser wherever required.

The contractor shall send invoice only for the net amount payable to him after deducting the amount of agency commission included in the invoice which would be paid to the Indian agents directly by the purchaser. However the contractor's invoice should separately reflect the amount of commission payable to his Indian agent.

20.2. PAYMENT FOR CONTRACTS IN INDIAN RUPEE

Unless otherwise mentioned elsewhere, payments for the contract will be made after final acceptance of stores and within a reasonable time on submission of following documents.

- i) GST compliant invoice in favour of paying authority duly pre-receipted.
- ii) Receiving voucher from Stores (RV).

Normally thirty days will be allowed for inspection and payment after receipt of the stores.

21. STATUTORY DEDUCTIONS

The purchaser has the right to make statutory deductions from the payments made to the contractor as applicable on the date of making

such payment as per the provisions of relevant Act or Rules made there under. Appropriate certificate to that effect will be provided by the purchaser's paying authority.

22. AGENCY COMMISSION

The amount of commission included in the price and payable to the Indian agents of the contractor shall be paid in INR directly to the Indian agents by the purchaser on the basis of an Invoice from the Indian agent. "Payment will be released to the Indian agents after receipt and final acceptance of the goods by the purchaser".

INSURANCE FOR CONTRACTS IN CURRENCY OTHER THAN INDIAN RUPEE

Transit insurance from warehouse to warehouse will be arranged by the purchaser through his underwriters unless this responsibility is specifically entrusted to the contractor in any particular case.

23. MARKING

The marking shall generally be as under:

Name and address of the consignee	Head - Stores Section, INSTITUTE FOR PLASMA RESEARCH (An Aided Institute of Dept. of Atomic Energy, Govt. of India) NEAR INDIRA BRIDGE, BHAT GANDHINAGAR-382428
Contract Number and Date	No. _____ Date _____
Brief Description of Goods	
Weight	
Dimension	
Ultimate Destination	
Port of Discharge	
Package Number	

Each package shall contain a packing note specifying the name and address of the contractor, the number and date of the contract, name and address of the consignee, description of the stores and the quantity contained in such package.

The inspector, wherever deputed by the purchaser under Section C Part-A Clause No. 6 may reject the stores if the same is not packed and/or marked as aforesaid and in case where the packing materials are specifically prescribed, if such materials are not in accordance with the terms of the contract.

24. CODE OF INTEGRITY

No official of a procuring entity or bidder or contractor shall act in contravention of the codes which include

- (i) Prohibition of
 - (a) making offer, solicitation or acceptance of bribe, reward or gift or any material benefit, either directly or indirectly, in exchange for an unfair advantage in the procurement process or to otherwise influence the procurement process.
 - (b) any omission, or misrepresentation that may mislead or attempt

to mislead so that financial or other benefit may be obtained or an obligation avoided.

- (c) any collusion, bid rigging or anticompetitive behavior that may impair the transparency, fairness and the progress of the procurement process.
- (d) improper use of information provided by the procuring entity to the bidder with an intent to gain unfair advantage in the procurement process or for personal gain.
- (e) any financial or business transactions between the bidder and any official of the procuring entity related to tender or execution process of contract; which can affect the decision of the procuring entity directly or indirectly any coercion or any threat to impair or harm, directly or indirectly, any party or its property to influence the procurement process.
- (f) obstruction of any investigation or auditing of a procurement process.
- (g) making false declaration or providing false information for participation in a tender process or to secure a contract;
- (ii) Disclosure of conflict of interest.
- (iii) Disclosure by the bidder of any previous transgressions made in respect of the provisions of sub-clause (i) with any entity in any country during the last three years or of being debarred by any other procuring entity.

- (iv) Institute for Plasma Research, after giving a reasonable opportunity of being heard, comes to the conclusion that a bidder or prospective bidder, as the case may be, has contravened the code of integrity, may take appropriate measures as deemed fit, including rejecting his bid and forfeiting EMD and/or debarring him from participating in future bidding.

25. LAW GOVERNING THE CONTRACT

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

26. JURISDICTION

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

27. SETTLEMENT OF DISPUTES

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.

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.

28. Arbitration

In the event of any dispute or difference arising out of or 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.

29. TRANSFER OF OWNERSHIP

- 29.1 Ownership of the stores supplied by the foreign contractor shall be transferred to the purchaser in accordance with the payment terms or INCOTERMS accepted.
- 29.2 Ownership of the stores supplied by the Indian contractor shall be transferred to the purchaser when the stores are delivered and accepted by the purchaser
- 29.3 Transfer of title shall not in any way absolve the contractor from his responsibilities and liabilities under the contract. Notwithstanding the

transfer of ownership of the stores, the responsibility for care and custody thereof together with the risk of loss or damage thereto shall remain with the contractor until safe delivery of the stores to the purchaser' site.

INTELLECTUAL PROPERTY RIGHTS

All rights of design documents and drawings, if paid by the purchaser separately or compositely included in the contract cost, will remain with the purchaser and the contractor shall have no claim whatsoever on these rights.

30. EXERCISING THE RIGHTS AND POWERS OF THE PURCHASER

Director, Institute for Plasma Research is the authorized person to deal with, exercise, negotiate on behalf of the purchaser having all the rights, discretions and powers of the purchaser under this contract and any reference to the opinion of the purchaser in the terms and conditions contained in these General Conditions of Contract/Special Conditions of Contract shall mean and be construed as reference to the opinion of any of the persons authorized by him as mentioned in this Clause. All notices on behalf of the purchaser shall be issued by Director, Institute for Plasma Research.

31. TERMINATION OF CONTRACT

In case of non-compliance of any of the Terms and Conditions of the Contract, Purchaser reserves the right to terminate the contract after serving notice to the contractor.

Performance Security, if any, already available shall be forfeited.

In addition to the above, the contractor will be liable to be debarred and/or banned from participation against any tender issued by Institute for Plasma Research, including its regional units, and/or the bid of defaulting contractor is being considered for award of contract of stores.

PART-B

In addition to the General Conditions of Contract contained in Section C Part-A the following Special Conditions of Contract shall apply to contracts for design/manufacture, supply, installation and commissioning of plant/ machinery/equipment/instrument as the case may be . These Special Conditions of Contract in Part-B shall override the General Conditions of Contract, wherever there is any ambiguity/conflict.

SPECIAL CONDITIONS OF CONTRACT

1. RESPONSIBILITY FOR COMPLETENESS

All fittings or accessories which may not be specifically mentioned in the tender specifications of the contract but which are necessary are to be provided by the contractor without any extra charge and the stores comprising plant/machinery/equipment/instruments must be completed in all respect within the delivery date.

2. FINAL TEST

The final tests to ascertain the performance and guarantee shall commence within one month of completion of installation. The contractor will inform the purchaser well in advance the services/facilities required to start the final test, as mentioned in the contract.

3. REJECTION OF DEFECTIVE PLANT

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 during the currency of the contract including warranty period, 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 it comply with the requirement of the contract at the earliest and in any case not later than thirty days from the date of such intimation of the incident. In case the contractor fail to do so within the abovementioned 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 to the same specifications as far as possible and under competitive conditions. The contractor shall be liable to pay to the purchaser the extra cost, if any, of such replacement procured and/or erected as provided for in the contract, such extra cost being the difference between the price paid by the purchaser under the contract for such replacement and the original price admitted in the contract placed with the contractor or the cost as determined by the purchaser out of the price admitted in the original contract, where separate price for such defective/rejected stores is not available in the contract. Contractor shall refund to purchaser any sum paid by the purchaser to the contractor in respect of such defective plant when rejected and no replacement is procured by the purchaser.

4. WARRANTY

The contractor shall provide warranty of stores supplied for a minimum period of twelve calendar months after the stores comprising 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 stores comprising plant/machinery/equipment/instrument) the contractor shall be responsible for any defects that may develop under conditions provided for in 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.

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 until 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 is later. If any defect is not rectified within a reasonable time, the purchaser may cancel the contract or part thereof whose decision will be final and binding on the contractor and the contractor will refund the money so paid to the contractor forthwith without any demur.

All inspections adjustments, replacements or renewals carried out by the contractor during the warranty period shall be subject to the same conditions as in the contract.

The contractor shall, give advance notice of not less than twelve months to the purchaser whenever spare parts of the stores are going out of production so that the purchaser may order requirement of spares in one lot or more lots if so desired.

The contractor shall further guarantee up to the plant/equipment/instrument/stores life that if spare parts go out of production, the contractor will make available blue prints, drawings of spare parts and specifications of stores at no cost to the purchaser, if and when required in connection with the stores to enable purchaser to fabricate or procure spare parts from other sources.

The provision of this Clause shall remain effective and binding upon the contractor even after the completion and fifteen years of expiration of the contract or till the stores supplied under the contract is in use by the purchaser, whichever is earlier.

5. ERECTION AND COMMISSIONING

In all cases where contract provide for supervision of erection and commissioning or for test at the purchaser's premises, the contractor shall indicate in advance the services required for installation and commissioning and the purchaser except where otherwise specified, shall provide free of charge, such labour, materials, fuels, apparatus and instruments as may be required from time to time and as may reasonably be demanded by the contractor to carry out efficiently such supervision of erection and commissioning and for the requisite test. In case of contract requiring electricity or services for the completion of erection, commissioning and testing at site, such electricity or services shall be supplied free of cost to the contractor or as specified in the NIT.

Action by the purchaser under the Clause shall not relieve the contractor of his warranty obligations under the contract.

6. TRAINING

The contractor shall, if required by the purchaser, provide facilities for the practical training of purchaser's engineering or technical personnel and for their active association on the manufacturing process through the manufacturing period of the contract/stores, number of such personnel shall be mutually agreed upon.

7. PAYMENT TERMS

7.1.FOR CONTRACTS IN INDIAN RUPEE ONLY

90% of total contract value exclusive of charges for installation and commissioning, if applicable after delivery of all consignment and preliminary inspection by purchaser's inspector on submission of the following:

- 7.1.1.1. GST compliant invoice in favour of paying authority duly pre-receipted.
- 7.1.1.2. Original shipping release containing the stamp and signature of the purchaser's inspection authority.
- 7.1.1.3. Preliminary Inspection Report alongwith Material receipt confirmation documents from Stores.

And balance payment will be released against following documents:

- i) Installation, commissioning and training certificate if applicable
- ii) Receiving voucher receipt from Stores.

7.2.FOR CONTRACTS IN CURRENCIES OTHER THAN INDIAN RUPEE

Unless otherwise specified elsewhere in the NIT, payment for the stores will be made as follows

90% of total contract value exclusive of charges for installation and commissioning, if applicable by Irrevocable Letter of Credit on submission of the following documents:

- i. Bill of Lading/Negotiable Airway Bill evidencing shipment
- ii. Invoice for the shipment : Four copies
- iii. Packing List : Four copies
- iv. Shipping authorization from purchaser wherever required. if applicable,
- v. Any other document(s) as specified in the contract.

An advance copy of invoice along with details of documents forwarded through bank should be sent to the Paying Authority mentioned in the contract to enable him to verify the documents and honor the claim without delay.

The contractor shall be responsible to make available to the purchaser the documents which are essential for arranging customs clearance in India. The contractor shall arrange through his bank to have the documents air mailed to the purchase's bank without any delay. He shall also arrange to forward directly to the purchaser, three copies of Airway Bill, along with a copy of the invoice and packing list. If the purchaser incurs any extra expenditure by way of penalty payable to the Airport authorities in India or any other such expenditure due to delay in receipt of shipping documents specified by purchaser, the contractor shall be responsible for making good such extra expenditure incurred by the purchaser.

While the purchaser shall bear the bank charges payable to his bankers in India (State Bank of India) the contractor shall bear all the bank

charges payable outside India including the charges towards advising/amendments, commission.

The contractor shall send invoice only for the net amount payable to him after deducting the amount of agency commission included in the invoice which would be paid to the Indian agents directly by the purchaser in Indian Rupee. However the contractor's invoice should separately reflect the amount of commission payable to his Indian agent.

Balance payment will be made by wire transfer after final inspection, testing, installation, commissioning (where applicable), final acceptance and submission of PSDBG acceptance letter from the Purchaser against following documents.

- i. Acceptance Report
- ii. Receiving voucher from Stores

8. FORCE MAJEURE

DEFINITION OF FORCE MAJEURE

Force Majeure shall mean any event which is beyond the control of the contractor or the purchaser, as the case may be, which they could not foresee or with a reasonable amount of diligence could not have foreseen and which substantially affects the performance of the contract, such as

war, hostilities or warlike operations (whether a state of war be declared or not), invasion, act of foreign enemy and civil war.

rebellion, insurrection, mutiny, usurpation of civil or military government, civil commotion.

embargo, import restriction, confiscation, nationalization, mobilization, commandeering or requisition by or under the order of Central, State Government or Local Authority in India or any other act or failure to act, of any local, state or national government in India

riot

state/region/country wide transporters strike

earthquake, landslide, volcanic activity, fire, flood or inundation, tidal wave, typhoon or cyclone hurricane, storm, lightning and pressure waves or other natural disaster

nuclear event causing nuclear radiation, radioactive

contamination

NOTICE OF FORCE MAJEURE

If either party is prevented, hindered or delayed from or in performing any of its obligations under the contract by an event of force majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances thereof within fourteen days after the occurrence of such event. A party shall give notice to the other party when it ceases to be affected by the force majeure. Failure to notify the purchaser about occurrence of such event within the time frame specified, the contractor shall have no right to claim any provisions under clause 8.4 below (consequences of force majeure)

DUTY TO MINIMISE THE EFFECT

The party or parties affected by the event of force majeure shall use reasonable efforts to mitigate the effect thereof upon its or their

performance of the contract and to fulfill its or their obligations under the contract

CONSEQUENCES OF FORCE MAJEURE

The party who has given notice of force majeure shall be excused from the performance or punctual performance of its obligations under the contract for so long as the relevant event of force majeure continues and to the extent that such party's performance is prevented, hindered or delayed. The delivery time shall be re- fixed in accordance with Section C Part-A Clause 10, even though such force majeure event may occur after contractor's performance of his obligations has been delayed for other cause. No delay or non-performance by either party hereto caused by the occurrence of any event of force majeure shall

Constitute a default or breach of the contract give rise to any claim for damages or additional cost or expense occasioned thereby; if and to the extent that such delay or non-performance is caused by the occurrence of an event of force majeure. If the performance of the contract is substantially prevented, hindered or delayed for a single period of more than sixty days or an aggregate period of more than one hundred and twenty days on account of one or more events of force majeure during the currency of the contract, the parties will attempt to develop a mutually satisfactory solution.

FORCE MAJEURE AFFECTING SUB-CONTRACTOR

Conditions as enumerated in Section C Part B Clause 8 will be applicable to sub- contractor.

If any sub-contractor is entitled under the contract for Force Majeure on terms additional to or broader than those specified in this Clause, such additional or broader Force Majeure events or circumstances shall not excuse the Contractor's non-performance or entitle him to relief under this Clause.

9. LIMITATIONS

Anything in this Contract to the contrary notwithstanding

The affected party shall not be relieved from obligations under this contract to the extent any gross negligence of the affected party aggravates the force majeure event; and

Force majeure shall not apply to obligations of either party to make payments to the other party under the contract.

10. HINDRANCES

The contractor is required to maintain hindrance register for reporting hindrance if any, while executing the work, as per Annexure-X

. The contractor shall get record of hindrances in the hindrance register(s) approved/ endorsed by the purchaser. Such hindrance in the work endorsed by the purchaser will only be taken into consideration for granting delivery date re-fixation.

ANNEXURE

BANK GUARANTEE/ HINDRANCE
REGISTERFORMAT

ANNEXURE-I: PERFORMANCE SECURITY BOND

[Note: Bank Guarantee shall be got executed from a Nationalised / Scheduled commercial Bank (Except Co-operative Bank and Grameen Banks) only on non-judicial stamp paper of appropriate value]

Institute for Plasma Research

(Acting through) Director/ Head- Purchase and Stores Department/ Head-Purchase Section
Institute for Plasma Research

1. WHEREAS on or about the (Date of the Purchase Order) M/s. _____ a Company incorporated under the Companies Act 1956 and having its registered office at _____ (hereinafter referred to as 'The Contractor') entered into an agreement bearing No. _____ (hereinafter referred to as 'The Contract'), with Institute for Plasma Research acting through Director/ Head- Purchase and Stores Department/ Head-Purchase Section, Institute for Plasma Research, Bhat, Near Indira Bridge, Gandhinagar-382428. (hereinafter referred to as (Purchaser) for supply of _____ (hereinafter referred to as 'The Equipment').
2. AND WHEREAS under the terms & conditions of the contract, the Contractor shall furnish Performance Security Bond for an amount of Rs. _____ (Rupees _____ only) representing 3% of the total value of the contract in the form of a bank guarantee, in a manner herein contained duly executed by a scheduled/nationalised bank towards satisfactory performance of the contract and performance of the equipment and against any loss or damage caused to or suffered or would be caused to or suffered by the Purchaser by reason of any breach by the said Contractor(s) of any terms and conditions contained in the said agreement. The Performance Security Bond shall be valid till satisfactory completion of Defect Liability Period covering the Warranty/Guarantee period of the equipment as per the terms & conditions of the said agreement.
3. NOW WE, the _____ (Bank) in consideration of the promises do hereby agree and undertake to pay to the Institute for Plasma Research, (the purchaser) on behalf of the Contractor, the said sum of Rs. _____ (Rupees _____ Only), the amount due and payable under the guarantee without any demur, merely on a demand from the Institute for Plasma Research stating that the amount claimed is due by way of loss or damage caused to, or suffered by, the Purchaser by reason of any breach by the said Contractor of any of the terms and conditions contained in the said agreement or by reason of the contractors failure to perform the said agreement or by reason of unsatisfactory performance of the equipment during the Warranty period. Any such demand, made on the bank, shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____ (Rupees _____ only).
4. WE undertake to pay to the Purchaser the said sum of ₹ _____ (Rupees _____ Only), demanded notwithstanding any dispute or disputes raised by the Contractor(s), in any suit on proceedings pending before any Court or Tribunal relating thereto, our liability under this presents being absolute irrevocable and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder and the Contractor shall have to no claim against us for making such payment.
5. WE HEREBY further agree that the decision of the Institute for Plasma Research as to the

amount of damages suffered by the Purchaser by reasons(s) of any breach by the said Contractor or whether the said equipment is giving satisfactory performance or not during the Warranty Period as per the terms and conditions of the said agreement, shall be final and binding on us.

6. AND WE, the _____(Bank) do hereby further agree that our liability hereinunder shall not be discharged by virtue of any agreement between the Purchaser and the Contractor whether with or without our knowledge and/or consent and shall remain in full force and effect during the period that would be taken for the performance of the said agreement or by reason of the Purchaser showing any indulgence or forbearance to the Contractor whether as to payment, time for performance, or any other matter whatsoever relating to the contract, which but for this provision, would amount to discharge of the surety under the law.
7. THIS guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor.
8. OUR Guarantee shall remain in force until _____and unless a claim under the guarantee is lodged with us within three months from the said date, all rights of the Purchaser under the guarantee shall be forfeited and we shall be relieved and discharged from all our liabilities hereunder.
9. Notwithstanding anything contrary contained in any law for the time being in force or banking practice, this guarantee shall not be assignable or transferable by the beneficiary. Notice or invocation by any person such as assignee, transferee or agent of beneficiary shall not be entertained by the bank. Any invocation of the guarantee can be made only by the beneficiary directly.

Dated the _____ day of _____ 202__
For _____
(Indicate the Name of bank)

ANNEXURE-V: BANK GUARANTEE FORMAT FOR RE-EXPORT/RETURN OF
REJECTED FOR EQUIPMENT REPAIRS / REPLACEMENT.
(By Indian/Foreign Contractor)

Head-Purchase and Stores Department, Institute for Plasma Research
On behalf of The Director, Institute for Plasma Research
Bhat, Near Indira Bridge,
Gandhinagar, Gujarat, India
Pin- 382428

Whereas on or about the _____ day of _____ 20 , M/s. _____ a company having incorporated their office at _____ (hereinafter referred to as 'the Contractor') entered into an Contract No. _____ dt. _____ (hereinafter referred to as 'the Contract') with the Head-Purchase and Stores Department, Institute for Plasma Research, on behalf of the Director, Institute for Plasma Research (Hereinafter referred to as 'the Purchaser') for manufacture and supply of _____ Nos. of (hereinafter referred to as the instrument') at a cost of _____ (in words).

Whereas as per the terms and conditions of the Contract, the Contractor had delivered to the consignee all the _____ Nos. of instruments, out of which _____ No./s. of the instrument costing _____ (in figure and words) was found defective and not working satisfactorily after its receipt by the consignee and therefore the instrument received from the Contractor was rejected by the Purchaser.

Whereas as per the terms and conditions of the Contract, the Contractor has agreed to either repair or replace the instrument, as is deemed fit, free of cost, to the purchaser within a period of _____ months from the date of receipt of the rejected instrument by the Contractor, under the warranty conditions of the Contract.

Whereas, as per the Purchaser policy, the Contractor was required to furnish a Bank Guarantee for full value of the defective instrument/s amounting to _____ (in figure and words) as a safeguard to the Purchaser on account of any damage/loss that may be caused or suffered by the Purchaser due to the Contractor's inability/failure to return the instrument duly repaired or supply a new instrument in replacement of the defective instrument within the specified time and also when the instruments lie under the Contractor's custody, control or possession.

Whereas the Contractor, based on the Purchaser's requirement has agreed to furnish such a Bank Guarantee as a safeguard to the Purchaser interest as indicated in para 4 above, valid till the return of the repaired instruments or a replacement thereof, to the Purchaser.

Whereas, we, _____ (name and address of the Bank) (herein after referred to as 'the Bank'), in consideration the Purchaser having agreed to despatch the defective instrument to the Contractor's works on freight to pay basis and Contractor having agreed to repair and return the defective instrument duly repaired or arrange free replacement of the defective instrument on freight paid/CIF _____ basis, do hereby agree and undertake to indemnify the Purchaser and keep the Purchaser indemnified to the extent of a sum not exceeding _____ (in figure and words.) against any loss or damage that may be caused or suffered by the Purchaser by reason of the Contractor either no returning the repaired instrument or arrange free replacement within a specified time and also when the instrument lie under the custody, control or possession of the Contractor.

We, the Bank, do hereby undertake to pay to the Purchaser, the amount due and payable under this Guarantee, without any demur, merely on a demand from the Purchase Officer, Institute for Plasma Research on behalf of the Purchaser, stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Purchaser by reason of the Contractor either not returning the instrument duly repaired or arrange free replacement to the Purchaser and also when the instrument lie under the custody, control or possession of Contractor. Any such demand on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this Guarantee shall be restricted to an amount not exceeding _____ (in figure and words).

We, the Bank, undertake to pay to the Purchaser any money so demanded notwithstanding any dispute or disputes raised by the Contractor/s or by agents in any suit or proceeding pending before any court or tribunal relating thereto our liability under this present being absolute and unequivocal.

The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder and the Contractor/s and the agents shall have no claim against us for making such payment.

And we, the Bank, hereby further agree that the decision of the said Head-Purchase and Stores Department, Institute for Plasma Research as to whether the Contractor has committed breach of any such terms and conditions of the Contract or not and as to the amount of damage or loss assessed by the said Head-Purchase and Stores Department, Institute for Plasma Research on account of such breach would be final and binding on us.

We, the Bank, further agree with the Purchaser that the Purchaser shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time for performance by the said Contractor from time to time or to postpone for any time or from time to time, any of the powers exercisable by the Purchaser against the said Contractor/s and to forbear or enforce any of the terms and conditions relating to the said Contract and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said Contractor/s or for any forbearance, act or commission on the part of the Purchaser or any indulgence by the Purchaser to the said Contractor/s or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

This Guarantee will not be discharged due to the change in the constitution of the Bank, the Contractor or the agent.

Our Guarantee shall remain in force until and unless a claim under the Guarantee is lodged with us within three months from that date, all rights of the Purchaser under the Guarantee shall be forfeited and we shall be relieved and discharged from all liabilities thereunder.

Dated the _____ day of _____ 202__
For _____
(Indicate the Name of bank)

ANNEXURE VI: BANK GUARANTEE FORMAT FOR RE-EXPORT OF REJECTED EQUIPMENT FOR
REPAIRS / REPLACEMENT.
(By local agents of foreign Contractor)

Head-Purchase and Stores Department, Institute for Plasma Research
On behalf of The Director, Institute for Plasma Research
Bhat, Near Indira
Bridge, Gandhinagar,
Gujarat, India
Pin-382428

Whereas on or about the _____ day of _____ 20 , M/s. _____, a company having incorporated their office at _____ (hereinafter referred to as 'the Contractor') entered into a Contract bearing No. _____ dt. _____ (hereinafter referred to as 'the Contract') with the Head-Purchase and Stores Department, Institute for Plasma Research, on behalf of the Director, Institute for Plasma Research, Gandhinagar, Gujarat, (Hereinafter referred to as 'the Purchaser') for manufacture and supply of Nos. _____ of (hereinafter referred to as the instrument') at a cost of _____ (in figures and words). The Contract recognizes M/s. _____ (name and address) as the Indian agent of the Principals M/s. _____ in India.

Whereas as per the terms and conditions of the Contract, the Contractor had delivered to the consignee all the _____ instrument costing _____ (in figure and words) was found defective and not working satisfactorily after its receipt by the consignee and therefore the instrument received from the Contractor was rejected by the Purchaser.

Whereas as per the terms and conditions of the Contract, the Contractor has _____ agreed to _____ either repair or replace the instrument, as is deemed fit, free of cost, to the purchaser within a period of _____ months from the date of receipt of the rejected instrument by the Contractor, under the warranty conditions of the Contract.

Whereas, as per the Purchaser policy, the Contractor was required to furnish a Bank Guarantee for full value of the defective instruments amounting to (in figure and words) as a safeguard to the Purchaser on account of any damage/loss that may be caused or suffered by the Purchaser due to the Contractor's inability/failure to return the instrument duly repaired or supply a new instrument in replacement of the defective instrument within the specified time and also when the instruments lie under the Contractor's. custody, control or possession. As the Indian agent has agreed to furnish the Bank Guarantee on behalf of the Principal in this Contract, M/s. _____ is required to execute the Bank Guarantee.

Whereas the Contractor, based on the Purchaser's requirement has agreed to furnish such a Bank Guarantee as a safeguard to the Purchaser interest as indicated in para 4 above, valid till the return of the repaired instruments or a replacement thereof, to the Purchaser.

Whereas, we, (the name and address of the Bank) (herein after referred to as 'the Bank'), in consideration of the Purchaser having agreed to despatch the defective instrument to the Contractor's works on freight to pay basis and Contractor having agreed to repair and return the defective instrument duly repaired or arrange free replacement of the defective instrument _____ on _____ freight _____ paid _____ /CIF _____ basis, do hereby agree and undertake to indemnify the Purchaser and keep the Purchaser indemnified to the extent of a sum not exceeding _____ (in figure and words) against any loss or damage that may be caused or suffered by the Purchaser by reason of the Contractor either not returning the repaired instrument or arrange free replacement within a specified time and also when the instrument lie under the custody, control or possession of the Contractor.

We, the Bank, do hereby undertake to pay to the Purchaser, the amount due and payable under this Guarantee, without any demur, merely on a demand from the Purchase Officer, Institute for Plasma Research, stating that the amount claimed is due by way of loss or damage caused to

or would be caused to or suffered by the Purchaser by reason of the Contractor either not returning the instrument duly repaired or arrange free replacement to the Purchaser and also when the instrument lie under the custody, control or possession of Contractor. Any such demand on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this Guarantee shall be restricted to an amount not exceeding_____ (in figure and words).

We, the Bank, undertake to pay to the Purchaser any money so demanded notwithstanding any dispute or disputes raised by the Contractor/s or by agents in any suit or proceeding pending before any court or tribunal relating thereto our liability under this present being absolute and unequivocal.

The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder and the Contractor/s and the Indian agents shall have no claim against us for making such payment.

And we, the Bank, hereby further agree that the decision of the said Head-Purchase and Stores Department as to whether the Contractor has committed breach of any such terms and conditions of the Contract or not and as to the amount of damage or loss assessed by the said Head-Purchase and Stores Department, Institute for Plasma Research on account of such breach would be final and binding on us.

We, the Bank, further agree with the Purchaser that the Purchaser shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time for performance by the said Contractor from time to time or to postpone for any time or from time to time, any of the powers exercisable by the Purchaser against the said Contractor/s and to forbear or enforce any of the terms and conditions relating to the said Contract and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said Contractor/s or for any forbearance, act or commission on the part of the Purchaser or any indulgence by the Purchaser to the said Contractor/s or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

This Guarantee will not be discharged due to the change in the constitution of the Bank, the Contractor/s or the agents.

Our Guarantee shall remain in force until _____ and unless a claim under the Guarantee is lodged with us within three months from that date, all rights of the Purchaser under the Guarantee shall be forfeited and we shall be relieved and discharged from all liabilities thereunder.

Dated the _____ day of _____ 202_

For _____
(Indicate the Name of bank)

ANNEXURE-VII: BANK GUARANTEE FORMAT FOR SUPPLY OF FREE ISSUE MATERIAL
(By Indian/Foreign Contractor)

Head-Purchase and Stores Department, Institute for Plasma Research
On behalf of The Director, Institute for Plasma Research
Bhat, Near Indira
Bridge, Gandhinagar,
Gujarat, India
Pin-382428

Whereas on or about the _____ (date), the Head-Purchase and Stores Department, Institute for Plasma Research, on behalf of the Director, Institute for Plasma Research, (hereinafter referred to as the Purchaser) has entered into a Contract bearing No. _____ Dated _____ for manufacture, inspection, testing and safe delivery of _____ (herein after referred to as the equipment) with M/s. _____ having their office at _____ (hereinafter referred to as the Contractor.)

And whereas in terms of the above said agreement, the Purchaser is required to supply free issue materials costing Rs. _____ as listed out in the agreement for the manufacture of the equipment at the Contractor's site, and that the Purchaser has agreed to authorise the Contractor to collect the free issue materials from the Purchaser's site subject to the Contractor furnishing a Bank Guarantee for Rs. _____ in a manner herein specified towards the safeguard of free issue materials.

Now, we _____ (bank) in consideration of the Purchaser having agreed to authorise issue of free issue material for collection by the Contractor, hereby undertake to indemnify the Purchaser and keep the Purchaser indemnified to the extent of the full value of the free issue material till such time the materials are lying under the custody/possession/control of the Contractor and till the equipment along with balance material, if any, are received by the Purchaser after manufacture of the equipment.

We, _____ (bank) do hereby undertake to pay to the Head-Purchase and Stores Department, Institute for Plasma Research, the amount due and payable under this Guarantee without any demur, merely on a demand from the Head-Purchase and Stores Department, Institute for Plasma Research, on behalf of the Purchaser stating that the amount claimed is due by way of loss, destruction, deterioration or damage caused to or suffered by the Purchaser to the purchaser's material thereby resulting in a loss to the Purchaser while they are lying under the Contractor's custody, possession or control or on account of the Contractor's failure to fulfill any of the contractual obligations.

Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this Guarantee shall be restricted to an amount not exceeding Rs. _____

We, _____ (Bank) undertake to pay to the Purchaser any money so demanded

notwithstanding any disputes raised by the Contractors in any suit or proceeding
dispute or any pending before any court of Tribunal relating

thereto our liability under this present being absolute and unequivocal. The payment so made by us under this Bond shall be a valid discharge of our liability for payment thereunder and the Contractors shall have no claim against us for making such payments.

We, _____ (Bank), also agree that the decision of the Purchase Officer, Institute for Plasma Research, Gandhinagar, Gujarat as to whether the Contractor has caused any loss/destruction or deterioration or damage to the Purchaser's material while these are lying under his custody/possession/control from whatever cause arising as also on the quantum of damage suffered by the Purchaser shall be final and binding on us.

We, _____ (bank) further agree with the Purchaser that the Purchaser shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time for performance by the said Contractors from time to time or to postpone for any time or from time to time any of the powers exercisable by the Purchaser against the said Contractors and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said Contractors or for any forbearance, act or omission on the part of the said Purchaser or any indulgence by the Purchaser to the said Contractors or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision, have the effect of so relieving us.

This Guarantee will not be discharged due to change in the constitution of the Bank or the Contractors.

Our Guarantee shall remain in full force until _____ and unless a claim under the guarantee is lodged with us within six months from that date all rights of the Purchaser under the guarantee shall be relieved and discharged from all liabilities thereunder.

Dated the _____ day of _____ 202_

For _____

(Indicate the Name of bank)

ANNEXURE-VIII: BANK GUARANTEE FORMAT FOR FIM
(Foreign Currency Contract)
(to be executed by the Indian Agent)

Head-Purchase and Stores Department, Institute for Plasma Research
On behalf of The Director, Institute for Plasma Research
Bhat, Near Indira
Bridge, Gandhinagar,
Gujarat, India
Pin-382428

Whereas on or about the _____ day of _____ 200 , M/s. _____, a company having incorporated their office at _____ (hereinafter referred to as 'the Contractor') entered into a Contract bearing No. _____ dt. _____ (hereinafter referred to as 'the Contract') with the Head-Purchase and Stores Department, Institute for Plasma Research, on behalf of the Director, Institute for Plasma Research (Hereinafter referred to as 'the Purchaser') for manufacture and supply of Nos. _____ of (hereinafter referred to as the instrument') at a cost of _____ (in figures and words). The Contract recognises M/s. _____ (name and address) as the Indian agent of the Principals M/s. _____ in India.

And whereas in terms of the above said agreement, the Purchaser is required to supply free issue materials costing Rs. _____ as listed out in the agreement for the manufacture of the equipment at the Contractor's site, and that the Purchaser has agreed to authorise the Contractor to collect the free issue materials from the Purchaser's site subject to the Contractor furnishing a Bank Guarantee for Rs. _____ in a manner herein specified towards the safeguard of free issue materials. As the Indian agent has agreed to furnish the Bank Guarantee on behalf of the Principal in this Contract, M/s. _____ is required to execute the Bank Guarantee.

Now, we _____ (bank) in consideration of the Purchaser having agreed to authorise issue of free issue material for collection by the Contractor, hereby undertake to indemnify the Purchaser and keep the Purchaser indemnified to the extent of the full value of the free issue material till such time the materials are lying under the custody/possession/control of the Contractor and till the equipment along with balance material, if any, are received by the Purchaser after manufacture of the equipment.

We, _____ (bank) do hereby undertake to pay to the Head-Purchase and Stores Department, Institute for Plasma Research, the amount due and payable under this Guarantee without any demur, merely on a demand from the Head-Purchase and Stores Department, Institute for Plasma Research, on behalf of the Purchaser stating that the amount claimed is due by way of loss, destruction, deterioration or damage caused to or suffered by the Purchaser to the purchaser's material thereby resulting in a loss to the Purchaser while they are lying under the Contractor's custody, possession or control or on account of the Contractor's failure to fulfill any of the contractual obligations.

Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this Guarantee shall be restricted to an amount not exceeding Rs. _____

We, _____(Bank) undertake to pay to the Purchaser any money so demanded notwithstanding any dispute or any disputes raised by the Contractors in any suit or proceeding pending before any court of Tribunal relating thereto our liability under this present being absolute and unequivocal. The payment so made by us under this Bond shall be a valid discharge of our liability for payment thereunder and the Contractors shall have no claim against us for making such payments.

We, _____(Bank), also agree that the decision of the Head-Purchase and Stores Department, Institute for Plasma Research, Gandhinagar, Gujarat as to whether the Contractor has caused any loss/destruction or deterioration or damage to the Purchaser's material while these are lying under his custody/possession/control from whatever cause arising as also on the quantum of damage suffered by the Purchaser shall be final and binding on us.

We, _____(bank) further agree with the Purchaser that the Purchaser shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time for performance by the said Contractors from time to time or to postpone for any time or from time to time any of the powers exercisable by the Purchaser against the said Contractors and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said Contractors or for any forbearance, act or omission on the part of the said Purchaser or any indulgence by the Purchaser to the said Contractors or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision, have the effect of so relieving us.

This Guarantee will not be discharged due to change in the constitution of the Bank or the Contractors.

Our Guarantee shall remain in full force until _____ and unless a claim under the guarantee is lodged with us within six months from that date all rights of the Purchaser under the guarantee shall be relieved and discharged from all liabilities thereunder.

Dated the _____ day of _____ 202__
For _____
(Indicate the Name of bank)

ANNEXURE-X: FORMAT FOR HINDRANCE REGISTER

Sl. No.	From	To	Nature of Hindrances in execution of Contract	Remarks with signature of Contractor	Remarks with Signature of Purchaser's representative

(To be printed in letter head)

Annexure-XI

**Self-Certification under preference to Make in India order
Certificate**

In line with Government Public Procurement Order No. P-45021/2/2017-PP (BE-II) dated 04.06.2020 and its amendments, we hereby certify that we M/s. _____ are local supplier meeting the requirement of minimum local content i.e., _____% excluding transportation, insurance, installation, commissioning, testing, training and after sales service support like AMC/CMC etc. as defined in above orders for the material against IPR Enquiry/Tender No **IPR/TN/PUR/TPT/ET/21-22/012** dated **31-08-2021**. Details of location at which local value addition will be made as follows: _____.

We also understand, false declarations will be in breach of the code of integrity under rule 175(1) (i) (h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151(iii) of the General Financial Rules along with such other actions as may be permissible under law.

Thanking You,

Signature with date:

Name:

Designation:

Official Seal

(To be printed in letter head)

ANNEXURE-XII

Annexure to Bid Form: Eligibility Declarations

(To be submitted as part of tender/Technical Bid)
(on company letter head)
(Along with supporting documents, if any)

Tender No. IPR/

Tender Title:

Bidder's Name: _____

(Address and contact details)

Date: _____

Bidder's Reference No. _____

Restrictions on procurement from Bidders from a country or countries, or a class of countries under Rule 144(xi) of the General Financial Rules 2017.

"We have read the clause regarding restrictions on procurement from a Bidder of a country which shares a land border with India; and solemnly certify that we are not from such a country or, if from such a country, we are registered with the Competent Authority (copy enclosed). We hereby certify that we fulfill all requirements in this regard and are eligible to be considered."

Penalties for false or misleading declarations:

We hereby confirm that the particulars given above are factually correct and nothing is concealed and also undertake to advise any future changes to the above details. We understand that any wrong or misleading self-declaration by us would be violation of Code of integrity and would attract penalties as mentioned in this tender document, including debarment.

(Signature with date)

(Name and designation)

Duly authorized to sign Bid for and on behalf of

(Name & address of the Bidder and Seal of Company)

SECTION 'D' :
TECHNICAL SPECIFICATIONS OF STORES
AND
DRAWINGS

Please see attachment to the tender

SECTION 'E' :

PRICE SCHEDULE

Please see attachment to the tender



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, फैक्स: 079-23962277

ADDITIONAL CONDITIONS OF CONTRACT against

IPR Tender No: IPR/TN/PUR/TPT/ET/22-23/006 Dated: 31/08/2022

Following clauses are deleted in Form No. e IPR-P-103

(Section-A)

- a) 47.2
- b) 20.3

Following clause is replaced in Form No. e IPR-PUR-103

(Section-A)

a) 20.2 GOODS AND SERVICE TAX

The offer price should be exclusive of applicable GST. However bidder should have to specifically mention the applicable GST in Percentage (%) and HSN/SAC Code in price schedule for evaluation purpose.

Following clause is modified in Form No. e IPR-PUR-103

7 VALIDITY OF BIDS

- 7.1 Bids shall be kept valid for acceptance for a period till **180 Days** from the date of **Opening of PART-I (Technical Bid)**. Bids with shorter validity period shall be rejected without any notice to the bidder.

Following clauses are deleted in Form No. IPR-P-100

PART-A

- a) 7.2
- b) 20.1
- c) 22
- d) 29.1

PART-B

- a) 7.2

Following clause is modified in Form No. IPR-P-100

PART-A

- 29.2 Ownership of the stores supplied by the contractor shall be transferred to the purchaser when the stores are delivered and accepted by the purchaser.

Following clause is modified in Form No. IPR-P-100

PART-B

7.1 The Clause Sr. No. 7.1 under heading Payment Terms of Section-B “General Conditions of Contract” of Form No. e_IPR-PUR-103 (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) 10% basic price of supply portion i.e. Item Sr. No. 1.01 of Price-Schedule will be paid as an advance after approval of drawings/design and on submission of Bank Guarantee for an equivalent amount from State Bank of India or any Indian Nationalized / Scheduled Banks as appearing in the second schedule of Reserve Bank of India (other than Co-Operating and Grameen Banks) on a non-judicial stamp paper of appropriate value valid till delivery of the system and on receipt of Proforma Invoice in triplicate.
- b) 20% basic price of supply portion i.e. Item Sr. No. 1.01 of Price-Schedule will be paid as an advance after submission of proof of procurement of raw materials and bought out item **as mentioned in Clause No. 6, Table No. 9 of Technical Specification sheet** and on submission of Bank Guarantee for an equivalent amount from State Bank of India or any Indian Nationalized / Scheduled Banks as appearing in the second schedule of Reserve Bank of India (other than Co-Operating and Grameen Banks) on a non-judicial stamp paper of appropriate value valid till delivery of the system and on receipt of Proforma Invoice in triplicate.
- c) 50% basic price of supply portion i.e. Item Sr. No. 1.01 of Price-Schedule + 100% of all applicable taxes of Item Sr. No. 1.01 will be paid against delivery of complete system as per the list of deliverable and scope of the tender at IPR site, Bhat, Gandhinagar, its physical verification by representative of IPR and on receipt of Invoice in triplicate.
- d) 20% basic price of supply portion i.e. Item Sr. No. 1.01 of Price-Schedule and 100% of Item Sr. No. 1.02 of Price-Schedule + 100% of all applicable taxes after successful completion of installation and acceptance at IPR site.

Following Annexures are deleted in Form No. IPR-P-100

Annexure – IX

Following Annexures are added in Form No. IPR-P-100

Annexure-XIII (COMMERCIAL TERMS & CONDITIONS)

Vendor/ Bidder should upload the duly filled (signed and stamped) copy of commercial bid (unpriced) as per Annexure-XIII

IMPORTANT NOTE:

- 1) QUOTATIONS ARE INVITED IN INDIAN CURRENCY ONLY.**
- 2) QUOTATIONS RECEIVED OTHER THAN “INR” QUOTE SHALL SUMMARILY BE REJECTED.**
- 3) OFFERED PRICE SHOULD BE EXCLUSIVE OF APPLICABLE GST. HOWEVER BIDDER SHOULD MANDATORILY HAVE TO SPECIFY THE PERCENTAGE (%) OF APPLICABLE GST AND HSN/SAC CODE OF OFFERED PRODUCT, IN PRICE-SCHEDULE (i.e. SECTION-E) OF TENDER DOCUMENTS.**
- 4) PARTIAL OFFER IS NOT ACCEPTABLE. OFFER RECEIVED FOR THE PARTIAL ITEM SHALL BE SUMMARILY BE REJECTED**
- 5) RATE MENTIONED AS “0” IN PRICE SCHEDULE SHALL BE CONSIDERED AS “WITHOUT ANY CHARGE/ FREE OF COST”.**

Annexure – XIII

IPR Enquiry/ Tender No. & Date	IPR/TN/PUR/TPT/ET/22-23/006 dated 31st August, 2022
COMMERCIAL TERMS & CONDITIONS	
IPR Enquiry/Tender No	
Item Description	Fabrication, Testing, Supply, Installation & Final Acceptance Tests at IPR of Cryopumping Test Chamber as per the detailed technical specifications mentioned in the tender document – 1 System

Sl. No.	PARTICULARS	REMARKS
I	Name of the Bidder	
II	Bidder Bid No & Date	
III	Postal address	
IV	Contact with STD code	
V	Fax with STD code	
VI	Name of Contact person	
VII	Mobile No.	
VIII	e-mail ID	
IX	Currency of offer/quotation	INR
	Commercial Terms for Quoted items (Please Provide Commercial terms and conditions in the below form)	
1	Price Term for Supplies offered in Indian Currency	FOR IPR Gandhinagar
3	Goods and Service Tax: Please confirm that you have mentioned the applicable GST (in percentage) along with HSN/SAC Code in price-schedule i.e. Section-E of tender documents. (Please Note that quoted price should be EXCLUSIVE of applicable GST)	
4	Delivery period: Refer tender terms	
5	Installation and commissioning charges: Have you offered Installation & Commissioning Charges? (if applicable)	
6	Liquidated Damages:- Please confirm that the Liquidated Damages as per Sr. No. 10 of Form No. IPR-P-100 attached with the tender/enquiry is acceptable to you	

7	<p>Terms of Payment:- Please confirm payment terms mentioned in the tender document is acceptable to you</p> <p>Refer "Annexure-IV" for details</p>	
8	Guaranty / Warranty:- Refer tender terms	
9	<p>Validity of offer/quotation:- Refer "Annexure-IV" for details</p>	
	QUESTIONNAIRE TO BE FILLED BY BIDDER IN AND SENT ALONG WITH OFFER DULY SIGNED	Accepted/ Not Accepted
10	<p>Performance Security: In the event of a purchase order/contract vendor has to provide Performance Security (PSDBG) as per tender terms, wherever applicable shall be submitted.</p>	
11	<p>Free Issue Material: Successful tenderer will have to arrange insurance/ Bank Guarantee 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.</p>	

Yours faithfully
Bidder
(Digitally signed or ink signed)

SECTION 'D' :
TECHNICAL SPECIFICATIONS OF STORES
AND
DRAWINGS

Institute for Plasma Research

(An Aided Institute of Dept. of Atomic Energy)
Bhat, Gandhinagar

QUALIFYING REQUIREMENTS

ITEM DESCRIPTION	Fabrication, Testing, Supply, Installation & Final Acceptance Tests at IPR of Cryopumping Test Chamber as per the detailed technical specifications mentioned in the tender document – 1 System	
Sr. No.	Detailed Criteria	Documents required to submit / upload
1	Previous work experience :- The bidder should have at least 5 years of experience in fabricating high vacuum systems from the date of publication of this tender.	The bidder should upload Company profile with client list details, projects executed, etc. <ul style="list-style-type: none"> • Company profile for experience with incorporation/registration certificates • List of clients • List of projects executed
2	Infrastructure and facilities :- <ul style="list-style-type: none"> • The bidder should have facilities and infrastructure (or access to such facilities) for fabrication, testing, inspection, and a CAD facility. • The bidder should have practices for high vacuum standards and handling environment for assembly of components, helium leak testing of the components. • The bidder should have trained manpower to handle the project. 	The bidder should upload Documents listing the presently available company infrastructure and facility details. <ul style="list-style-type: none"> • List of Fabrication, testing and CAD facility • Helium leak detector details • Manpower strength
3	Experience related to the successful execution of projects :- <ul style="list-style-type: none"> • Experience in fabrication and supply of high vacuum systems (diameter greater than or equal to 1000 mm) with operating vacuum range of $\leq 5 \times 10^{-6}$ mbar in the past 5 years from the date of publication of this tender. 	<ul style="list-style-type: none"> • The bidder should upload Purchase/work order with technical details and its successful installation/ commissioning/ acceptance report.
Note:		
1	The bidder shall be single entity, who fulfills the Eligibility criteria on their own (i.e. Works carried under joint ventures/ consortium shall not be considered), shall only be eligible to apply	
2	Bidders meeting the Eligibility Criteria as mentioned in the table shall only be considered as “eligible bidders” and will be shortlisted for further evaluation.	
3	Relevant documents shall be submitted as an evidence of fulfilment of eligibility criteria. However, meeting the eligibility criteria in itself does not automatically qualify through the technical bid evaluation process.	
4	The response to tender without submission of proof of above points will summarily be rejected without further communication	
5	Original documents shall be produced for verifications, if required	
6	IPR keeps the right to contact the customers and/or visit those plants referred by eligible bidders.	

TENDER DOCUMENT
FOR
FABRICATION, TESTING, SUPPLY, INSTALLATION & FINAL
ACCEPTANCE TESTS AT IPR OF CRYOPUMPING TEST
CHAMBER AS PER THE DETAILED TECHNICAL
SPECIFICATIONS MENTIONED IN THE TENDER DOCUMENT

INSTITUTE FOR PLASMA RESEARCH

NEAR INDIRA BRIDGE,
BHAT, GANDHINAGAR-382 428
GUJARAT
INDIA

Tender/Specification Document for the Fabrication, Testing, Supply and Installation of Cryopumping Test Chamber (CTC)

1. INTRODUCTION:

Institute for Plasma Research (IPR) is working for the various facility creations related to the cryo-pumping testing and evaluation of pumping performances. The aim of the present tender is fabrication, testing and installation of the Cryopumping Test Chamber (CTC) which includes the following major components (refer **Figures 1 to 8** for further details and locations of these components).

1. LN2 bath: A cylindrical-annulus shaped Liquid nitrogen bath
2. Panel Stage 1 & 2: OFHC Copper panels mounted in stage1 and Stage 2 of the cryocoolers
3. Array Panels: Rectangular shaped Panels (12 Nos.) mounted on inner surface of the LN2 bath
4. Louvre Baffle: Mounted on the front side of the bath and functionally a Louvre baffle
5. Rear Shield: Radiation shield mounted on the rear side of the LN2 bath
6. Cryo-chamber: Chamber section houses the LN2 bath and panels
7. End-Flange: Main support flange for the LN2 transfer lines, Pumping System and other interfaces
8. Test Dome Chamber: Chamber with length 1.5 times the diameter of the Cryo-chamber
9. Pumping, Measurement and Control System

2. GENERAL INFORMATION FOR THE VENDOR FOR BIDDING

Vendor must read all the technical and commercial information provided in the tender document and assess the scope, expertise and quality requirement. Wherever there is a compliance requirement mentioned, vendor must confirm/accept the same and provide all technical compliance details, reading all the technical information provided. The work involves cryogenic, vacuum and fabrication expertise. All the technical challenges in that direction must be accounted for while bidding. Relaxation on technical scope will not be provided.

3. SCOPE OF THE TENDER:

Following are the list of activities under the scope of the tender.

- 3.1. Understanding IPR's requirement based on the drawings and technical information provided.
- 3.2. Creation of Fabrication drawing based on the Engineering drawings supplied by IPR (see appendix-1 for list of drawings) and after discussion with and consent of IPR. If required, necessary changes in the design drawing provided by IPR will have to be done by the vendor. For easy understanding CATIA (.STEP and .CATPart and Product) Models file and drawing (.DWG) will be provided to the vendor after the PO placement.
- 3.3. Taking approval from IPR for the Engineering/Fabrication drawings.
- 3.4. Fabrication of the CTC and components.
- 3.5. Third Party Inspection (TPI) for the fabrication quality assurance is in vendor's scope.
- 3.6. Factory testing of the CTC and approval of test reports by IPR.
- 3.7. Pre-dispatch Inspection of the CTC by IPR.
- 3.8. Packing, forwarding and Unloading at IPR main campus.
- 3.9. Installation and testing at IPR for the leak and vacuum performance testing.
- 3.10. Assembly and integration of the components to the CTC.
- 3.11. Final integration of the CTC with accessories to the IPR's LN2 facility.
- 3.12. PLC based Control and monitoring system interface with the CTC.
- 3.13. Operating CTC with the control system and data management for a full operational cycle.
- 3.14. Final acceptance of the system will be provided after completion of activity **Sr. No. 3.9 to 3.13.**

4. SYSTEM INFORMATION

The major components of the CTC are shown in figures 1 to 8. There will an End Flange (diameter: 1500 mm and thickness 40 mm) on which liquid nitrogen transfer line, pumping system and other interfaces will be assembled. The cryo-chamber is a cylindrical vacuum enclosure (Length: ~800 mm and diameter: 1250 mm) and houses the LN2 bath and the panels. All the sections will be assembled together with their support structure and movement wheels. For the ease of assembly and future need End flange, Cryo-chamber and Test Dome Chambers are made separable/demountable. In appendix-2 List of required accessories are given.

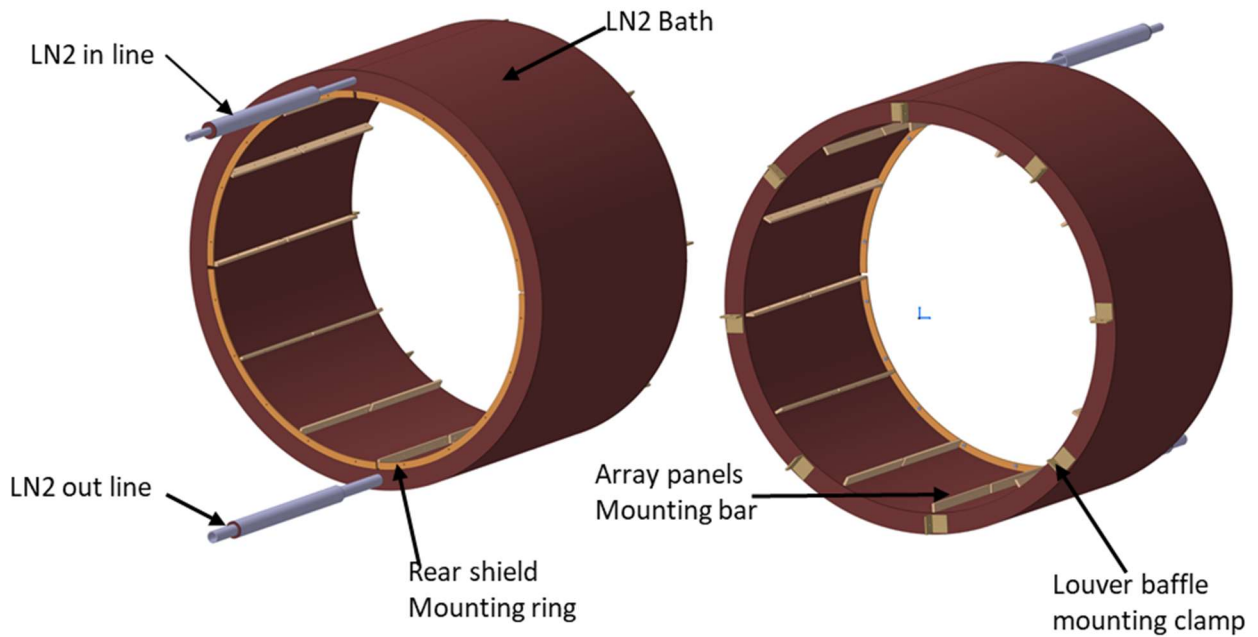


Fig.1: LN2 bath (front and rear side)

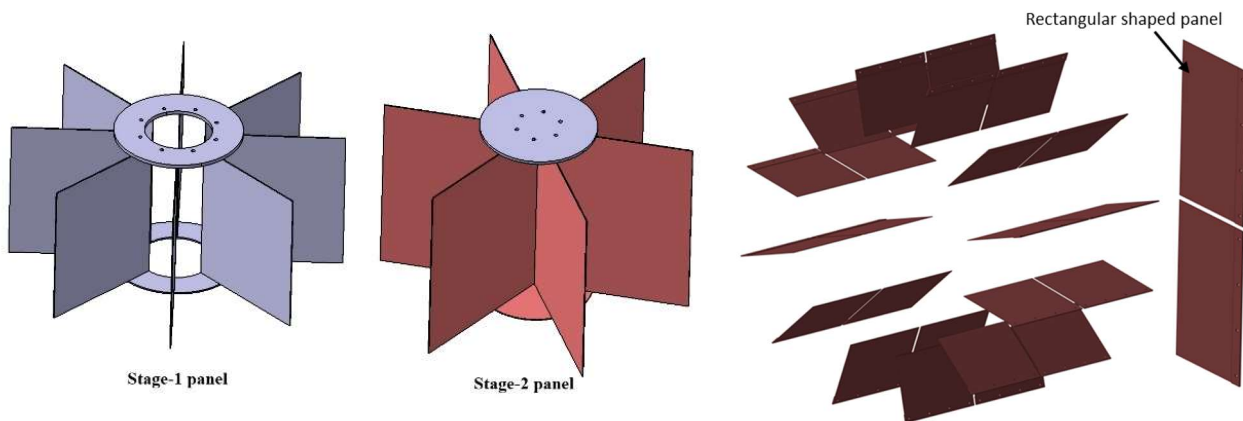


Fig.2: Panel Stage 1 & 2

Fig.3: Array Panels

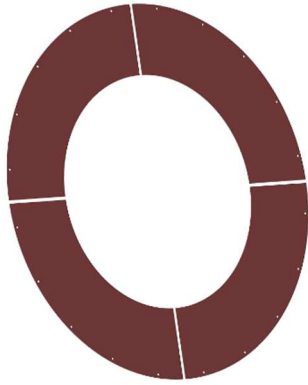


Fig.4: Rear Shield

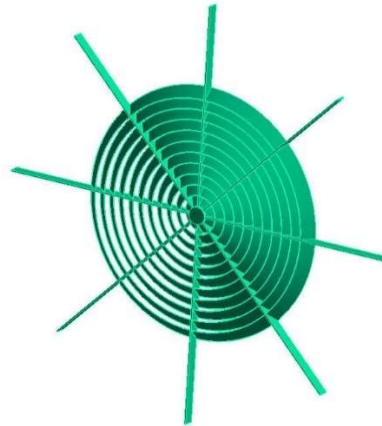


Fig.5: Louvre Baffle

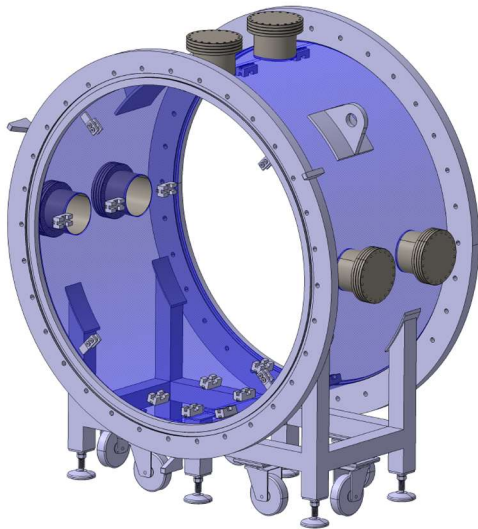


Fig.6:Cryo Chamber

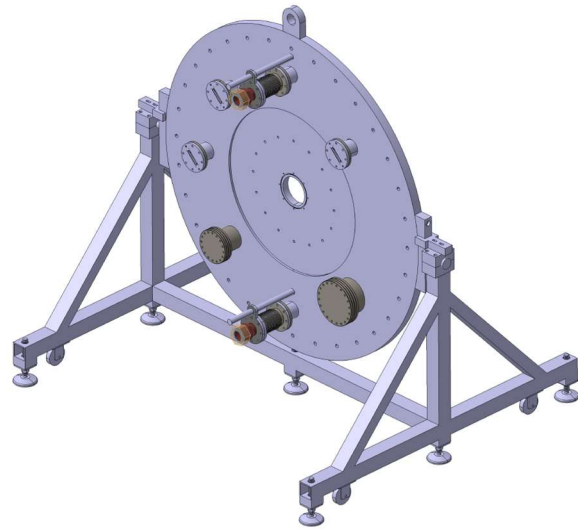


Fig.7:End Flange

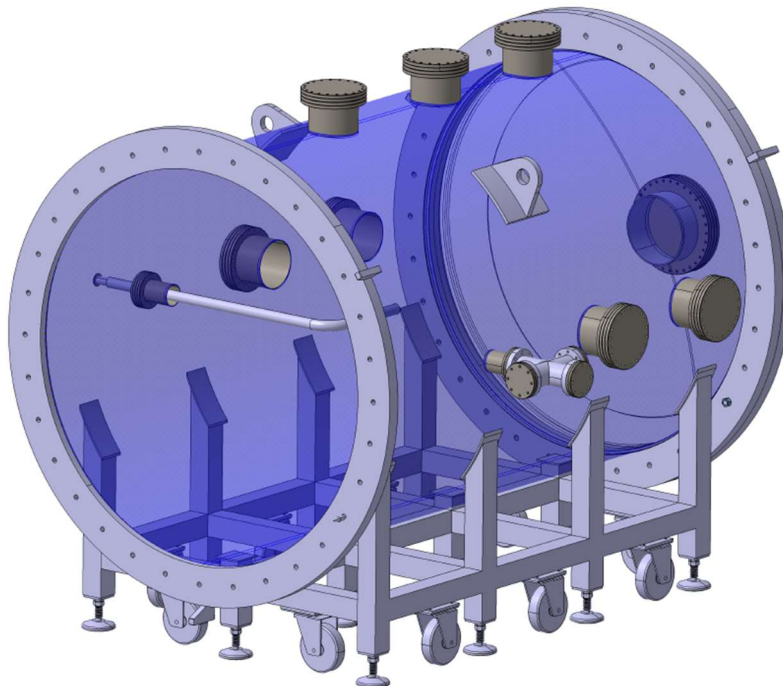


Fig.8:Test Dome Chamber

5. SPECIFICATION/REQUIREMENTS

Following are the specification of the CTC components. Vendor must submit a compliance to the specification/requirement asked in the Appendix-3.

Table 1: Specification for LN2 bath, Quantity: 1 No.

Sl. No.	Specification	Requirements
01	Dimensions	Bath Cavity Internal Diameter:1072mm Bath Cavity Outer Demeter:1180 mm Shell thickness: 4 mm End Plate thickness: 4 mm Drawing Reference: IPR/CTC/2022/01 to 03
02	Surface treatment/Polishing/Plating	Electro-polished (on both sides)
03	Operation Temperature	LN2 temperature (77 K or -196.15 DegC) to 80 DegC (during baking)
04	Operating Pressure	3 bar (g) Maximum.
05	Leak tightness	<ul style="list-style-type: none"> Helium leak tightness $\leq 5E-10$ mbar-l/s in vacuum mode for individual joint. Helium leak tightness $\leq 5E-6$ mbar-l/s in Sniffer mode (Helium filled to 2 bar-g) for individual joint.
06	Material	SS304L (Material Certification Required).
07	Welding	<ul style="list-style-type: none"> Minimum no. of welding joints preferred. No-crossing of welding and no trapped volume. Prior to MSLD test, if necessary weld joints should be buffed. Welding must be carried out by qualified welder.
08	Welding quality testing	All Accessible welding joints must be radiography tested and certificates to be submitted to IPR.

Table 2: Specification for Panel Stage 1 & 2, Quantity: 1 No. each

Sl. No.	Specification	Requirements
01	Panel Stage 1 & 2 Dimensions	As per Drawing. Drawing Reference: IPR/CTC/2022/04 & 05
02	Mounting Location	On First stage and Second Stage of the Cryocooler System available at IPR. (Mounting will be on IPR's Scope).
03	Surface treatment/Polishing/Plating	Surface roughness > 2 micron. (Except mounting contact faces)
04	Operation Temperature	20K (-253.15 degC) to 80 DegC (during baking).
05	Operating Pressure	Vacuum ($\leq 1E-6$ mbar).
06	Leak tightness	Not required.
07	Material	OFHC Copper (Material Certification Required).
08	Brazing	All Brazing should be silver brazed (continuous) with silver content greater than 50% and vacuum and cryogenic compatible.
09	Surface to Surface Contact	Maximum contact is required for better thermal conduction.

Table 3: Specification for Array Panels Quantity: 12 Nos. (1 Set) & 2 Nos. extra as spare

Sl. No.	Specification	Requirements
01	Each Panel Dimensions	As per Drawing. Drawing Reference: IPR/CTC/2022/06
02	Mounting Location	Inner curved surface of the LN2 bath using Array Panel Mount (Note: maximum contact for better thermal conduction required) Each panel is split in two halves
03	Surface treatment/Polishing/Plating	Surface roughness > 2 micron (Except mounting contact faces)
04	Operation Temperature	77K or -196.15 degC to 80 DegC (during baking)
05	Operating Pressure	Vacuum ($\leq 1\text{E-}6$ mbar)
06	Leak tightness	Not required
07	Material	OFHC Copper (Material Certification Required)
08	Brazing	All Brazing should be silver brazed with Silver content greater than 50% and Vacuum and cryogenic compatible.
09	Surface to Surface Contact	Maximum contact is required for better thermal conduction. (Each panel halves is separately mounted to the LN2 bath)

Table 4: Specification for Rear Shield, Quantity: 1 No. (In 4 segments)

Sl. No.	Specification	Requirements
01	Major Dimensions	As per Drawing. Drawing Reference: IPR/CTC/2022/06
02	Mounting Location	Rear Flat surface of the LN2 bath using Shield contact Mount (Note: maximum contact for better thermal conduction required). Mounted as 4 separate segments.
03	Surface treatment/Polishing/Plating	Nickel/Chrome Plated.
04	Operation Temperature	77K or -196.15 degC to 80 DegC (during baking).
05	Operating Pressure	Vacuum ($\leq 1\text{E-}6$ mbar).
06	Leak tightness	Not required.
07	Material	OFHC Copper (Material Certification Required).
08	Brazing	All Brazing should be silver brazed with silver content greater than 50% and vacuum and cryogenic compatible.
09	Surface to Surface Contact	Maximum contact is required for better thermal conduction. (Assembly in 4 segments to the LN2 bath).

Table 5: Specification for Louvre Baffle, Quantity: 1 No.

Sl. No.	Specification	Requirements
01	Baffle major Dimensions	As per Drawing. Drawing Reference: IPR/CTC/2022/07&08
02	Mounting Location	Front flat surface of the LN2 bath using Baffle contact Mount. (Note: maximum contact for better thermal conduction required).

03	Surface treatment/Polishing/Plating	Nickel/Chrome Plated.
04	Operation Temperature	77K or -196.15 degC to 80 DegC (during baking).
05	Operating Pressure	Vacuum ($\leq 1E-6$ mbar).
06	Leak tightness	Not required.
07	Material	OFHC Copper (Material Certification Required).
08	Brazing	All Brazing should be silver brazed with Silver content greater than 50% and Vacuum and cryogenic compatible.
09	Surface to Surface Contact	Maximum contact is required for better thermal conduction.

Table 6: Specification for Cryo-chamber, Quantity: 1 No.

Sl. No.	Specification	Requirements
01	Dimensions	Internal Diameter: 1250 mm Outer Diameter: 1266 mm Shell thickness: 8 mm Drawing Reference: IPR/CTC/2022/12 & 13
02	Surface treatment/Polishing/Plating	Inside/Outside: Buffed to mirror finish.
03	Operation Temperature	Room temperature to ~50 DegC (during baking).
04	Operating Pressure	Vacuum $\leq 1E-6$ mbar.
05	Leak tightness	Helium leak tightness $\leq 5E-10$ mbar-l/s in vacuum mode to all the weld joints, flanges and connections.
06	Material	SS304L (Material Certification Required).
07	Welding (TIG)	<ul style="list-style-type: none"> • Minimum no. of welding joints preferred. • No-crossing of welding and no trapped volume. • Standard welding as per High Vacuum systems (Inside continuous and outside stitch welding). • Prior to MSLD test, if necessary, weld joints should be buffed. • Welding must be carried out by qualified welder.
08	Welding quality testing	For welding quality confirmation, Non-destructive testing like DPT, Ultrasonic, and Radiography shall be carried out as per applicable standards.
09	O-ring/Sealing	<ul style="list-style-type: none"> • Viton material and with suitable hardness. • Should be baked to 80 DegC (preferable under vacuum) for 24 hours before use. • Should be inspected for minor cracks and physical damages prior to use. • Grooves and matching surfaces should have surface finish better than 1.5 Micron Ra value and compatible for application. • Continuous dovetail or trapezoidal groove shall be provided for the O-ring mounting surfaces. • Suggested O-ring diameter 16 mm and groove center 1320 mm (ISO 1250 std.). • Single Piece O-ring, No joint is allowed.
10	Support Stand and assembly related requirement	<ul style="list-style-type: none"> • Support frame as per the drawing.

		<ul style="list-style-type: none"> • Suitable wheel (preferably 6 inch size, stainless steel make) for movement of the systems with locking/swivels. • Height adjustment ~20 mm for the support jack. • Necessary assembly set-pin and hinges for easy handling and assembly. • Necessary hooks for lifting.
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Table 7: Specification for End-Flange, Quantity: 1 No.

Sl. No.	Specification	Requirements
01	Dimensions	Diameter:1500 mm Thickness: 40 mm Drawing Reference: IPR/CTC/2022/14 to 17
02	Surface treatment/Polishing/Plating	Inside/Outside: Buffed to mirror finish.
03	Operation Temperature	Room temperature to ~50 DegC (during baking).
04	Operating Pressure	Vacuum $\leq 1E-6$ mbar.
05	Leak tightness	Helium leak tightness $\leq 5E-10$ mbar-l/s in vacuum mode to all the weld joints, flanges and connections.
06	Material	SS304L (Material Certification Required).
07	Welding	<ul style="list-style-type: none"> • Minimum no. of welding joints preferred. • No-crossing of welding and no trapped volume. • Standard welding as per High Vacuum systems (Inside continuous and outside stitch welding). • Prior to MSLD test, if necessary weld joints should be buffed. • Welding must be carried out by qualified welder.
08	Welding quality testing	If required for welding quality confirmation, Non-destructive testing like DPT, Ultrasonic, and Radiography shall be carried out as per applicable standards.
09	Support Stand and assembly related requirement	<ul style="list-style-type: none"> • Support frame as per the drawing. • Suitable wheel (preferably 6 inch size, stainless steel make) for movement of the systems with locking/swivels. • Height adjustment ~20 mm for the support jack. • Necessary assembly set-pin and hinges for easy handling and assembly. • Necessary hooks for lifting.

Table 8: Specification for Test Dome Chamber, Quantity: 1 No.

Sl. No.	Specification	Requirements
01	Dimensions	Inner Diameter:1250 mm Outer Diameter:1266 mm Thickness:8 mm Drawing Reference: IPR/CTC/2022/09 to 11
02	Surface treatment/Polishing/Plating	Inside/Outside: Buffed to mirror finish.

03	Operation Temperature	Room temperature to ~50 DegC (during baking)
04	Operating Pressure	Vacuum $\leq 1\text{E-}6$ mbar.
05	Leak tightness	Helium leak tightness $\leq 5\text{E-}10$ mbar-l/s in vacuum mode to all the weld joints, flanges and connections.
06	Material	SS304L (Material Certification Required)
07	Welding	<ul style="list-style-type: none"> • Minimum no. of welding joints preferred. • No-crossing of welding and no trapped volume. • Standard welding as per High Vacuum systems (Inside continuous and outside stitch welding). • Prior to MSLD test, if necessary, weld joints should be buffed. • Welding must be carried out by qualified welder
08	Welding quality testing	For welding quality confirmation, Non-destructive testing like DPT, Ultrasonic, and radiography shall be carried out as per applicable standards.
09	O-ring/Sealing	<ul style="list-style-type: none"> • Viton material and with suitable hardness. • Should be baked to 80 DegC (preferable under vacuum) for 24 hours before use. • Should be inspected for minor cracks and physical damages prior to use. • Grooves and matching surfaces should have surface finish better than 1.5 Micron Ra value and compatible for application. • Continuous dovetail or trapezoidal groove shall be provided for the O-ring mounting surfaces. • Single Piece O-ring, No joint is allowed.
10	Support Stand and assembly related requirement	<ul style="list-style-type: none"> • Support frame as per the drawing (MOC SS 304) • Suitable wheel (preferably 6 inch size, stainless steel make) for movement of the systems with locking/swivels. • Height adjustment ~20mm for the support jack. • Necessary assembly set-pin and hinges for easy handling and assembly. • Necessary hooks for lifting.
11	Flanges, ports and fittings	As per the drawing provided.

6. CRYO-VACUUM SYSTEM AND MEASUREMENT DEVICES:

The vacuum pumping and Measurement system contains the following equipment and the specification and technical information is provided in **Appendix-4**. A compliance on the technical specification needs to be submitted along with the technical bid. Assembly, integration, testing and interfacing requirement for all the items (listed in Table 9) will be on vendor's scope.

Table 9: List of Vacuum, Cryogenic and Measurement devices

Sr. No.#	Equipment name	Qty.	Major Specification
01	Turbo-molecular pumping system	1 No.	Pumping Speed 700 l/s
02	Gate valve (150CF and 63CF)	2 Nos. (1 No. Each)	150CF & 63CF UHV

03	Vacuum Pressure gauge with display/controller	2 No.	1000 to $\leq 1\text{E-}9$ mbar Pirani/Bayard-Alpert (Hot cathode)
04	Silicon Diode Temperature Sensors	10 Nos.	4K to 400K Measurement Range
05	Temperature Monitor	1 No.	for silicon diode temperature sensors
06	Feedthrough	6 Nos.	25 Pin Positronic
07	Liquid Nitrogen Solenoid valve	2 Nos.	$\frac{1}{2}$ Inch LN2 valve with extended coil stem
08	Residual Gas Analyzer	2 Nos.	1-200 amu
09	Stabil Ion gauge	2 No.	Measuring Range for N2 or Air $\leq 5\text{E-}11$ to $\geq 1\text{E-}5$ mbar And Accuracy: 5% or better
10	Pt-100 Temperature sensors & cartridge Heaters	Not required	Will be provided by IPR during installation at IPR
11	Buffer chamber and manual operated gas feed control valves	Not required	Will be provided by IPR during installation at IPR
12	Pressure Transducer	2 Nos.	0-10 bar operating range
13	Differential Pressure transducer	1 No.	0-2.5 bar operating range
14	Mass Flow Controller	Not required	Will be provided by IPR during installation at IPR
15	Safety Relief valve (LN2 Line)	2 Nos.	1 to 4 bar (Spring Loaded)
16	Rupture/Bursting Disc	1 No.	Burst pressure 5 bar (g)

7. CONTROL AND MONITORING SYSTEM (Qty: 1 integrated System)

A. System Design requirement:

- The control and instrumentation system is the control center which is to be designed and configured by the vendor to control, interlock and sequencing logic, provide system diagnostics and also to acquire, process, display and store CTC operational data/parameters in user-defined data save formats (as per IPR).
- The operational console will be a PLC and PC based system with extended display.
- Control parameters and interlock/sequencing logic have to be incorporated in the control system based on the IPR's input.
- Should have secured access over intranet/internet for remote monitoring. Only licensed software should be used.
- Should have auto-emailing/Auto SMS facilities for critical failures and alarms.
- Graphic Display of the system schematic on screen along with real time ON-OFF status and Alarms.
- Temperature control during regeneration (Heaters will be provided by IPR) and controlling using temperature feedback.
- Vendor must submit a technical compliance given in Appendix-5 to the IPR's requirement.
- A basic requirement P&ID is provided in **Appendix-6** for planning of the control and monitoring system. Detailed P & ID needs to be submitted with discussion with IPR before initiating the instrumentation task. Safety and other operational interlocks needs to be added.

B. Detailed description of the instruments and the Data Acquisition and Control (DAC) requirement for the CTC is given in **Appendix-7**.

C. Specification for the PLC and other control system hardware

Table 10: DAC system specification

Sl. No.	Specification	Requirements
PLC (1 integrated System)		
01	PLC Make:	Reputed manufacturer. The PLC and hardware should be capable of handling above mentioned requirements.
02	Communication:	Ethernet.
03	Program capacity	16 K steps or more.
04	Memory	RAM memory card 4MB or better.
05	Power supply	24VDC 5 AMP (or suitable).
06	Digital Input	16 Nos., 24V DC (isolated).
07	Digital Output	16 Nos. 24VDC (isolated).
08	Analog Input	24 Channels (isolated, 12 bit or better ADC per temperature channel, Configurable).
09	Analog Output	24 Channels (12 bit or better DAC per channel, Configurable 0 to 10 V DC and 4 to 20 mA).
10	RS232/485 Port	6 ports: Either PLC module or external converter module to PLC/PC data communication from different functional modules.
11	Temp Scanner	PLC modules or external scanner to be used with PC/PLC communication.
Control Panel (1 No.):		
12	MS 16 Gauge or suitable, Must have main switch, emergency stop button, audio alarm and visual alarm on the control enclosure. Final design must be verified by the user. <ul style="list-style-type: none">• Should have fuse, MCB and other necessary power protection provision.• Fan with dust covers & protection.• AC plug sockets: 2 Nos.• Proper wiring with tagging for the terminals.• Panel wiring as per IEC-61439 or suitable standard.• Network cable-Twisted pair- CAT-6 or suitable standard.	
Industrial Computer (1 No.)		
13	Intel Core i5/i7 Processor, 16GB DDR3 RAM, 1TB Hard Disk, Touch screen with Minimum Screen Size 32”, 16:9 Wide Screen or better. Other specification to be decided by the vendor and as per the above requirements. Pre-installed windows office is required.	
Monitor (1 No.)		
14	Screen: LED 55” TV. Mounting provision: Wall Mount. Accessories: HDMI cable (10 m), remote.	
General requirements		
15	<ul style="list-style-type: none">• GUI interface and control and monitoring application should be provided.• All applications (including PLC) should have license for lifetime validity.• GUI, interface as per IPR’s scope considering future expansion.	

8. CODES AND STANDARDS SUGGESTED

For carrying out the work, safe and clean work practice must be followed, compatible to the Ultra High vacuum and Cryogenic application and practice. For the required design, manufacturing and handling below listed codes and standards are suggested to be followed. Vendor may use other necessary codes and standards and the same needs to be reported.

- If necessary, ASME Section VIII-Division 1 shall be used for design, fabrication, inspection, testing and acceptance.
- For welding procedure qualification, welders' qualification and all other welding details ASME – Sec. – IX shall be followed.
- Material shall be according to relevant ASTM/ASME standard.
- ASME Boiler and Pressure vessel codes may be used if required.
- ISO Standard 2861-Flange standard.
- For testing methods ASME – Sec. – V shall be followed.
- ASTM E498-Standard Test Methods for Leaks Using the Mass Spectrometer leak Detector.
- Latest edition of above codes shall be used.

Vendor may also refer additional codes or their equivalent as mentioned below.

- EN 13458: Cryogenic vessels – Static vacuum insulated vessels.
- EN 13468: Cryogenic vessels – Safety devices for protection against excessive pressure.
- EN 12434: Cryogenic vessels – Cryogenic flexible houses.

9. FACTORY INSPECTION, TESTING AND OTHER TERMS:

- The vendor shall inspect all the machined parts, sub-assemblies, final assemblies etc., in full compliances with approved drawings.
- Vendor must submit the material test certificate (as mentioned in the specification sheet) from an appropriate test lab prior to fabrication start and the same needs to be approved from the IPR. If required, IPR may ask for sample of the procured materials to test the materials at IPR's preferred lab.
- Third Party Inspection (TPI) for the fabrication and welding quality assurance has to be carried out by the Vendor from a reputed TPI organization/party. Details of the TPI reports needs to be submitted to IPR.
- The records of all the tests and inspection shall be maintained by the vendor and the same will be submitted to the purchaser (IPR) at different stages, as advised by IPR.
- Vendor must carry out helium leak testing (with suitable helium leak detector and in Vacuum mode and Sniffer mode filling helium at 2 bar pressure) for the LN2 bath with liquid nitrogen exposure and thermal shocking (vendor may propose a suitable method to do so) and the acceptable leak rate for all the weld joints is $\leq 5E-10$ mbar-l/s for vacuum mode and $\leq 5E-6$ mbar-l/s in Sniffer mode. Thermal shocking and leak testing results must be reported.
- Vendor must carry out helium leak testing (with suitable helium leak detector) for the Cryopumping Test Chamber (CTC) and the acceptable local leak rate for all the weld joints is $\leq 5E-10$ mbar-l/s.
- During Factory testing CTC needs to be evacuated using the TMP and the pressure requirement is $\leq 5E-6$ mbar with pump down time ≤ 24 Hour.
- IPR Team may carry out factory visit during the leak testing, thermal cycling testing.
- All the necessary tests for system qualifications must be performed as guided/advised by IPR & at no extra cost to IPR.

10. PRE-DISPATCH INSPECTION (PDI):

After the Factory Inspection and Testing reports need to be submitted to IPR for the approval and based on that IPR personnel will do the Factory Visit for PDI. During PDI following performance testing is required for qualification for dispatch clearance.

- During Factory testing CTC needs to be evacuated using the TMP and the pressure requirement is $\leq 5E-6$ mbar with pump down time ≤ 24 Hour.
- After achieving the above pressure level, liquid nitrogen will be filled fully to the LN2 bath and vacuum level $\leq 5E-6$ mbar pressure should be maintained inside the CTC.

11. HANDLING, PACKING AND DELIVERY

- The Vendor shall ensure all the parts & assemblies are protected against damage during manufacturing inspection, handling, storage and transport.
- The packing shall be suitable and rigid enough to ensure safety of all the components during shipping to delivery site, loading, stacking and storage. Adequate number of silica gel packets along with a copy of shipping release document shall be kept inside packing.
- Special protective packing should be arranged for the protection LN2 bath vessel.
- All openings of respective components shall be covered to prevent entrance of dirt and moisture during shipment.
- Individual package shall be stenciled in bold character with indelible paint, protected with shellac to indicate shipping mark, package numbers, dimensions and gross weight in kilos, the purchase order number and any other necessary data to identify the equipment and relate it to the technical specifications.
- Packing list shall be clearly visible and include package number, package contents, dimensions, net and gross weight of content in each package with handling instructions if any.
- The shipment of equipment shall not be effected until and unless written "Shipping Release" is obtained from IPR. The same will be issued by the IPR (or authorized representative) after satisfactory completion of "Factory acceptance test". The Vendor shall dispatch deliverables to IPR site after shipping release certificate is issued.
- Transshipment in transit shall be avoided, by arranging specially hired transport for direct delivery to IPR specified delivery site.

12. WARRANTY

Vendor shall provide warranty for the performance of the fabricated/manufactured/ installed and bought out items/components for twelve months (12 Months) from the date of final acceptance. During this period if any fault occur, vendor shall rectify at no extra cost.

13. DELIVERY

- Vendor shall send the fabrication drawings of the CTC to IPR within 6 (six) weeks from the date of purchase order. IPR shall submit the necessary drawing approval within 2 (two) weeks.
- Scope of work specified under this contract "Fabrication, Testing, Supply and Installation of Cryopumping Test Chamber (CTC)" shall be completed within 18 (Eighteen) months from the date of approval of manufacturing drawings.
- Delivery of supplies shall be made at IPR, Bhat Gandhinagar-382428, Gujarat, India. Goods shall be unloaded inside Cryopump & Pellet Injector lab, IPR.
- List of deliverable is as per the scope of the tender, however a summarized list is given in Appendix-8.

14. ASSEMBLY AND INTEGRATION AT IPR

- Assembly of the subcomponents mentioned in the Appendix-1 and as per the scope of the tender at IPR.
- LN2 transfer line connection to the system (Transfer line will be provided by IPR).

- Integration of the control system with CTC.

15. ACCEPTANCE TESTING AT IPR

- During Acceptance testing CTC needs to be evacuated using the TMP and the pressure requirement is $\leq 5E-6$ mbar with pump down time ≤ 24 Hour.
- Vendor must carry out helium leak testing (with IPR helium leak detector) for the **CTC assembly** and the acceptable local leak rate for all the weld joints is $\leq 5E-10$ mbar-l/s. For LN2 bath, vendor must carry out helium leak testing Vacuum mode and in Sniffer mode (filling helium at 2 bar pressure). Acceptable leak rate for all the weld joints is $\leq 5E-10$ mbar-l/s for vacuum mode and $\leq 5E-6$ mbar-l/s in Sniffer mode.
- Monitoring and data logging check using the control system.

16. GENERAL TERMS AND CONDITIONS

- Any deviation / discrepancy / change from the drawings shall be brought out in separate sheet by the Vendor.
- Vendor shall submit to purchaser a list of material, inspection plan, quality assurance plan, material procurement schedule, manufacturing schedule for approval and obtain and release for fabrication to purchaser to proceed with manufacturing.
- Procurement of all the tools, fixtures, jigs, equipment's, material, temporary blanks etc.; required for the fabrication, inspection and testing shall be in the scope of Vendor.
- Purchaser authority / representative shall have access to all manufacturing facilities, inspection and testing facilities, tools, drawings etc.; during all stages of manufacture. Purchaser / its authorized representative reserve the right to add any supplementary requirements like random sample testing of raw material.
- Defining the suitable welding procedure will be on the scope of the vendor, distortion on the bath should be checked while executing the tender.
- Safety issues: Vendor should follow the recommended Safety norms/precautions followed for site activities in routine work.

APPENDIX-1: List of Drawings

Sr.#	Drawing No.	Name of sheet	remark
1	IPR/CTC/2022/00	Cryopumping Test Chamber (CTC)	Main assembly drawing of system.
2	IPR/CTC/2022/01	LN2 bath assembly	
3	IPR/CTC/2022/02	LN2 bath detailed drawing-1	
4	IPR/CTC/2022/03	LN2 bath detailed drawing-2	
5	IPR/CTC/2022/04	Stage-1 panel	To be mounded on Cryocooler at IPR
6	IPR/CTC/2022/05	Stage-2 panel	
7	IPR/CTC/2022/06	Array panel & rear shield	
8	IPR/CTC/2022/07	Louvre baffle	
9	IPR/CTC/2022/08	Louvre baffle detailed drawing	
10	IPR/CTC/2022/09	Test dome chamber	
11	IPR/CTC/2022/10	Test dome chamber detailed drawing-1	
12	IPR/CTC/2022/11	Test dome chamber detailed drawing-2	
13	IPR/CTC/2022/12	Cryo chamber	
14	IPR/CTC/2022/13	Cryo chamber detailed drawing	
15	IPR/CTC/2022/14	End flange	
16	IPR/CTC/2022/15	End flange detailed drawing-1	
17	IPR/CTC/2022/16	End flange detailed drawing-2	
18	IPR/CTC/2022/17	End flange detailed drawing-3	
19	IPR/CTC/2022/18	End flange detailed drawing-4	
20	IPR/CTC/2022/19	Base support stand	
21	IPR/CTC/2022/20	Other parts	

APPENDIX-2: List of Required Necessary Accessories for CTC

Sr. No.#	Component name	Quantity required	Remarks
01	250CF blank flange	1 No.	To be mounted on the Ports of CTC.
02	150 CF blank flange	15 Nos.	
03	100 CF blank flange	15 Nos.	
04	63 CF blank flange	15 Nos.	
05	35 CF blank flange	2 Nos.	
06	250CF copper gasket	5 Nos.	To be supplied as Accessories and should be packed properly.
07	150 CF copper gasket	30 Nos.	
08	100 CF copper gasket	20Nos.	
09	63 CF copper gasket	50Nos.	
10	35 CF copper gasket	50 Nos.	
11	63 ISO-F blank flange-Modified	5 Nos.	3 No. will be mounted on the Ports of CTC, 2 Nos. extra.
12	Extra O-ring-Spare (1320 mm thickness/Cross section and diameter: 16 mm)	1 No.	3 Nos. will be mounted on the CTC. 01 to be supplied as Accessories.
13	Necessary bolts, nuts with washers (Stainless Steel) for all the flanges and mountings.	As per requirement of CTC operation.	
14	Complete Wrench set and necessary tool kits for the ease of operation of the system.	As per requirement of CTC operation.	

APPENDIX-3: Compliance Sheet for CTC FABRICATION

Sl. No.	Specification	Requirements	Vendor's Compliance (If any deviation, please mention here)
1	LN2 bath <u>Quantity: 1 No.</u>	As per IPR's Drawing Reference: IPR/CTC/2022/01 to 03 And specification mentioned in Section:5, Table 1.	
2	Panel Stage 1 & 2, <u>Quantity: 1 No. each</u>	As per IPR's Drawing Reference: IPR/CTC/2022/04 & 05 And specification mentioned in Section:5, Table 2.	
3	Array Panels <u>Quantity: 12 Nos. (2 Nos. extra as spare)</u>	As per IPR's Drawing Reference: IPR/CTC/2022/06 And specification mentioned in Section:5, Table 3.	
4	Rear Shield, <u>Quantity: 1 No.</u>	As per IPR's Drawing Reference: IPR/CTC/2022/06 And specification mentioned in Section:5, Table 4.	
5	Louvre Baffle, <u>Quantity: 1 No.</u>	As per IPR's Drawing Reference: IPR/CTC/2022/07 & 08 And specification mentioned in Section:5, Table 5.	
6	Cryo-chamber, <u>Quantity: 1 No.</u>	As per IPR's Drawing Reference: IPR/CTC/2022/12 & 13 And specification mentioned in Section:5, Table 6.	
7	End-Flange, <u>Quantity: 1 No.</u>	As per IPR's Drawing Reference: IPR/CTC/2022/14 to 17 And specification mentioned in Section:5, Table 7.	
8	Test Dome Chamber, <u>Quantity: 1 No.</u>	As per IPR's Drawing Reference: IPR/CTC/2022/09 to 11. And specification mentioned in Section:5, Table 8.	
	Accessories for CTC	As per the list of required Necessary Accessories for CTC (See APPENDIX-2)	Confirmation required

APPENDIX-4: Specification/Compliance Sheet for VACUUM, CRYOGENIC AND MEASUREMENT DEVICES

Sr. no.	Specification	Vendor's Compliance (Mention details)	Remarks
Turbo-molecular Pumping System – Qty: 1 System			
	Pump Mounting Flange: 150 CF Pumping Speed: Between 600-800 L/s Base Pressure: <1E-9 mbar Hydrogen Compression Ratio: >1x10 ⁵ Cooling Method: Air cooled Roughing Port: 25 KF Roughing Pump: Rotary Pump/Drypump Compatible to the TMP and should be from the same Original Equipment Manufacturer as TMP. Filter: Oil mist filter if rotary pump is supplied Venting: Should have vent protection valve in the roughing pump (in built or additional) Controller: Single controller controlling both TMP and roughing pump Controller Interface: RS232/485 or suitable Accessories: splinter shield, desiccant filter for venting, vacuum gauges for auto operation /control and safety, Rotary pump oil 1 extra charge	<u>Mention details and Specify List of possible suppliers</u>	
150CF Gate Valve- Qty: 1 No.			
	Flange: 150 CF matching with the TMP. Body: Stainless Steel Sealing: Bellow sealed Differential pressure: 1.5 bar (abs) Pressure Min: <1E-9 mbar Max. Working Temperature: 100 DegC Actuator: Pneumatic actuator with position indicator and Solenoid	<u>Mention details and Specify List of possible suppliers</u>	
63 CF Gate Valve- Qty: 1 No.			
	Flange: 150 CF matching with the TMP. Body: Stainless Steel Sealing: Bellow sealed Differential pressure: 1.5 bar (abs) Pressure Min: <1E-9 mbar Max. Working Temperature: 100 DegC Actuator: Pneumatic actuator with position indicator and Solenoid	<u>Mention details and Specify List of possible suppliers</u>	
Vacuum Pressure gauge Qty: 2 Nos.			
	Measuring method: Pirani/Bayard-Alpert (Hot cathode) Filament: Tungsten/iridium coated with Y2O3 Flange, material: 35/40CF ,Stainless steel	<u>Mention details and Specify List of possible suppliers</u>	

	Precision: $\pm 15\%$ or better at 1E-5 to 1E-8 mbar Repeatability: 5% or better Controller: Suitable Interface: RS/232485 or suitable Display/Controller: Suitable to the gauge.		
Silicon Diode Temperature Sensors Qty: 10 Nos.			
	Sensor type: DT-670C high temperature silicon diode in CU package, un-calibrated Part No: DT-670C-CU-HT	<u>Mention details and Specify List of possible suppliers</u>	
Temperature Monitor Qty: 1 No.			
	Display: LCD/LED for 8 channel Measurement type: 4-lead/wire No. of channel: 8 Nos. Sensor Inputs: DB-25 mating connector Compatible to DT-670 silicon diode and PT-100 Sensor curves: Pre filled curve for DT-670 silicon diode and PT-100 Relay output for control: 08 Nos. Contact rating: up to 30 VDC at 5 A Communication: RS232/485 or suitable	<u>Mention details and Specify List of possible suppliers</u>	
Feedthrough: Qty: 6 Nos.			
	Category Type: XAVAC 25M/S G.0/AA, Positronic Feedthrough type: D subminiature type Number of pin: 25 Pin Connector gender: Male/Female posiband Type of application: Gold for space version Type of contacts: Normal density Connector quantity: 200 Nos. each Male & Female posiband	<u>Mention details and Specify List of possible suppliers</u>	Dimension as per ISO 63F Modified flange Drawing Reference: IPR/CTC/2022/16
Liquid Nitrogen Solenoid valve Qty:2 Nos.			
	Operational Fluid: Liquid Nitrogen Purpose: LN2 flow control Fitting: 1/2 inch standard Orifice size: 7 mm or higher Flow capacity: 20 LPM (water equivalent at 1 bar) Differential Pressure: 5 bar (max.) Seal: PTFE or suitable for operation Mass: <2 Kg Power: 230V AC/24VDC	<u>Mention details and Specify List of possible suppliers</u>	
Residual Gas Analyzer Qty: 2 Nos.			
	Mass range: 0-200 amu Mass filter type: Quadrupole Detector type: Faraday cup (FC) – standard Minimum detectable partial pressure: $\leq 1 \cdot 10^{-10}$ Torr (FC). Operating pressure range: 10^{-4} Torr to UHV (FC)	<u>Mention details and Specify List of possible suppliers</u>	

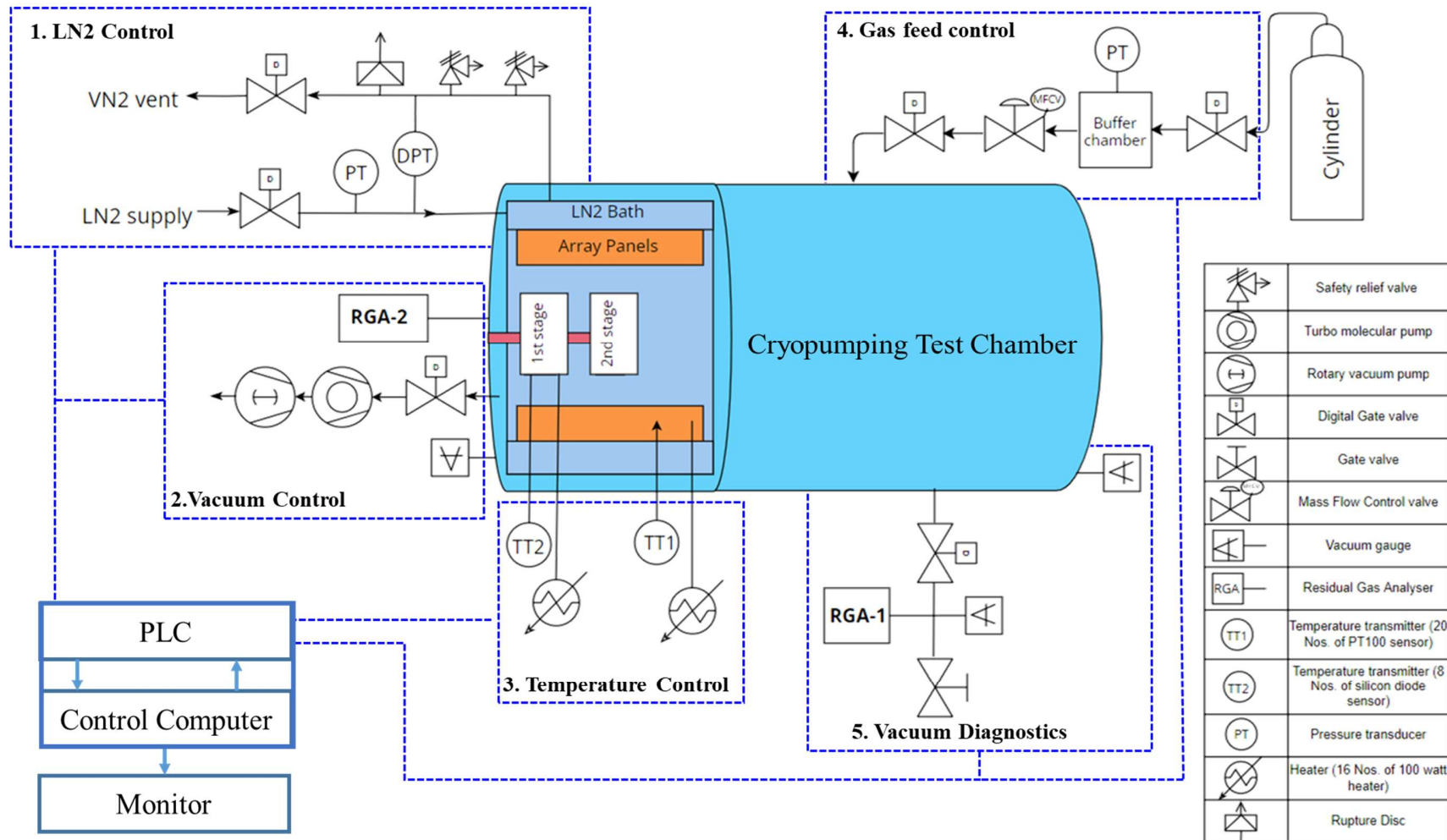
	Bake out temperature: 150 DegC Filament: Thoriated Iridium (dual) Mounting flange: 35CF Interface: RS232/485 or suitable Power Requirement: 230V-AC		
Stabil-Ion Guage : 2 Nos.			
	Filament type: Stabil Ion Gauge with dual yttria coated iridium filaments and Memory Module UHV Range Gauge Flange connection: 35 or 40 CF Measuring Range for N2 or Air: $\leq 5E-11$ to $\geq 1E-5$ mbar Accuracy for N2: 5% or better Repeatability: 3% or better Digital Interface Options: RS 232/485 or suitable Dual Stabil-Ion Gauge Operation : Operates two gauges Controller: For dual gauge operation	<u>Mention details and Specify List of possible suppliers</u>	
Pressure transducer (2 Nos.)			
	Pressure Type: Gauge Pressure Range: Up to 10 bar Power Supply 24 VDC or compatible Total Error $< \pm 1.0\%$ FS Output Interface: 4-20 mA, 0-10 V Media Compatibility: Gases, Liquids Material: Stainless Steel Connection: To be decided by vendor	<u>Mention details and Specify List of possible suppliers</u>	
Differential Pressure Transducer (1 No.)			
	Pressure Type: Gauge Pressure range and limits: 0-2.5 bar Power Supply 24 VDC or compatible Output Interface: 4-20 mA, 0-10 V Material: Stainless Steel Media Compatibility: Gases, Liquids Connection: To be decided by vendor	<u>Mention details and Specify List of possible suppliers</u>	
Safety Relief Valve (2 Nos.)			
	Set Pressure range: 1 to 4 bar (g) Medium: Nitrogen Operating temperature: -196 °C Up to 45 °C Maximum design Pressure: 10 bar Connection: To be decided by vendor Design/sizing standard: ASME Sec. VIII or Equivalent Materials: compatible to LN2 application	<u>Mention details and Specify List of possible suppliers</u>	
Rupture/Bursting Disc (1 No.)			
	Burst Pressure: 5 bar (g) Tolerance: $\pm 10\%$ or better Operating temperature: -196 °C Up to 45 °C Connection: To be decided by vendor Design/sizing standard: ASME Sec. VIII or Equivalent Materials: compatible to LN2 application	<u>Mention details and Specify List of possible suppliers</u>	

APPENDIX-5: Compliance Sheet for CONTROL AND MONITORING SYSTEM

Sl. No.	Specification	Requirements	Vendor's Compliance (Mention details)
PLC (1 integrated System):			<u>Mention details and Specify List of possible suppliers</u>
01	PLC Make:	Reputed manufacturer. The PLC and hardware should be capable of handling above mentioned requirements.	
02	Communication:	Ethernet	
03	Program capacity	16K steps or more	
04	Memory	RAM memory card 4MB or better	
05	Power supply	24VDC 5 AMP (or suitable)	
06	Digital Input	16 Nos., 24 VDC (isolated)	
07	Digital Output	16 Nos. 24 VDC (isolated)	
08	Analog Input	24 Channels (isolated, 12 bit or better ADC per temperature channel, Configurable)	
09	Analog Output	24 Channels (12 bit or better DAC per channel, Configurable 0 to 10 V DC and 4 to 20 mA)	
10	RS232/485 Port	6 ports : Either PLC module or external converter module to PLC/PC data communication from different functional modules	
11	Temp Scanner	PLC modules or External scanner to be used with PC/PLC communication	
Control Panel (1 No.):			
12	MS 16 Gauge or suitable, Must have main switch, emergency stop button, audio alarm and visual alarm on the control enclosure. Final design must be verified by the user. <ul style="list-style-type: none">Should have fuse, MCB and other necessary power protection provision.Fan with dust covers & protection.AC plug sockets: 2 Nos.Proper wiring with tagging for the terminals.Panel wiring as per IEC-61439 or suitable standard.Network cable-Twisted pair- CAT-6 or suitable standard.		
Industrial Computer (1 No.):			
13	Intel Core i5/i7 Processor, 16GB DDR3 RAM, 1TB Hard Disk, Touch screen with Minimum Screen Size 32”, 16:9 Wide Screen or better other specification to be decided by the vendor and as per the above requirements. Pre-installed windows office.		<u>Mention details and Specify List of possible suppliers</u>
Monitor (1 No.):			
14	Screen: LED 55” TV Mounting provision: Wall Mount Accessories: HDMI cable (10 m), remote,		

General requirements:		
15	<ul style="list-style-type: none"> • GUI interface and control and monitoring application should be provided. • All applications should have license. • GUI, interface as per IPR's scope considering future expansion 	<u>Confirmation required.</u>

APPENDIX-6: P & ID for CONTROL AND MONITORING SYSTEM



APPENDIX-7: Data Acquisition and Control (DAC) requirement for the CTC.

The CTC operation has been divided into five (05) segments and their operational requirements is discussed below.

Segment No#	Name of the segment and their operational purpose requirement	*List of Hardware Components to be integrated	**Control system requirement (in nos.)
1	LN2 Control <ul style="list-style-type: none"> LN2 supply on/Off control using LN2 level reading from DPT/or temperature sensor Valve status and pressure reading in GUI Maintaining liquid level) 	LN2 solenoid valve (2 Nos.	DI:2 valves status input , 24V level DO:2 24V on/off control
		Pressure transducer (1 No.)	AI:1 (4 to 20 mA input)
		Differential Pressure transmitter (1 No.)	AI:1 (4 to 20 mA input)
2	Vacuum Control <ul style="list-style-type: none"> TMP on/off with status and current & RPM reading Valve on/off with status RGA on/off and data display and recording Vacuum pressure gauge ON/OFF and pressure data display and data recording. Over pressure safety for the gauge and RGA 	Turbopump and rouging pump (1 set.)	RS232/485 port For on/off needed DO: 1 relay or Contactor switch. RS232 communication protocol to be checked by vendor.
		150CF Gate Valve (1 No.)	DI:1 ; need to check status available with valve DO:1 24V DC controlled
		Residual gas analyzer (1 No.)	RS232/485 port RS232 communication protocol checked by vendor.
		Vacuum Pressure gauge (1 No.)	AI:1 (4 to 20 mA input)
3.	Temperature Control <ul style="list-style-type: none"> Temperature reading and recording for 8 Nos. Si-diode using monitor and 12 nos. Pt-100 temperature sensors using PLC. During regeneration (baking), 16 Nos. of heaters will have to be used to maintain the desired baking temperature (40-80 degC) using PID controller. Each Heater should have individual temperature feedback. 	Temperature Monitor (1no.) for Si-diode temperature measurement and Si-diode sensors (8 Nos.)	Temp monitor, 8 channel RS232/485 port. Communication protocol to be checked by vendor.
		PT-100 temperature sensors: 12 Nos.	PLC module to be used OR MASIBUS temp scanner 24 channel to be used. RS232/485 port, comm. Protocol to be checked. (MODBUS)
		Heaters (16 Nos. in total)	PLC PID Controller modules can be used or standalone PID controller can be used. RS232/485 port with comm. Protocol to be checked by vendor.

4.	Gas Feed Control <ul style="list-style-type: none">• MFC valve On/OFF Using the solenoid valve maintain a static pressure (1-1.5 bar-gauge) in the buffer chamber.• Mass flow control with data reading and recording of flow parameters (% opening, total gas flow, gas flow rates).	Solenoid On/Off valve (2 Nos.)	DI:2 24V DC controlled DO:2 24V DC controlled
		Pressure transducer (1 No.)	AI:1 (4 to 20 mA)
		Mass flow controller (1 No.)	AI:1 (4 to 20 mA) or RS232/485 port with comm. protocol
5.	Vacuum Diagnostics <ul style="list-style-type: none">• Gate valve on/off with status• RGA on/off and data display and recording• Vacuum pressure gauge On/off and pressure data display and data recording.• Over pressure safety for the gauge and RGA.	1. 63 CF Gate Valve (1 No.)	DI:1 24V DC controlled DO:1 24V DC controlled
		2. Residual gas analyzer (1 No.)	RS232/485 port RS232 communication protocol to be checked by the vendor.
		3. Vacuum Pressure gauge (2 Nos.)	AI:2 (4 to 20 mA input)
** Digital Input – DI, Digital Output – DO, Analogue Input – AI, Analogue output – AO			
* Vendor must check the necessary hardware requirement while selecting the Vacuum, cryogenic and measurement devices.			

APPENDIX-8: List of deliverables

Sr. No.	Particulars	Quantity	Remarks
1	Cryopumping Test Chamber (CTC) consisting of 1. LN2 bath: 1 No. 2. Panel Stage 1 & 2: <u>1 No. each</u> 3. Array Panels: <u>12 Nos. (2 Nos. extra as spare)</u> 4. Louvre Baffle: 1 No. 5. Rear Shield: 1No. (in 4 segments) 6. Cryo-chamber: 1 No. 7. End-Flange: 1 No. 8. Test Dome Chamber: 1 No.	1 System	Assembled to the CTC
2	Turbo-molecular pumping system	1 No.	
3	Gate valve (150CF 1 No. and 63CF 1 No.)	2 Nos.	
4	Vacuum Pressure gauge	2 Nos.	
5	Silicon Diode Temperature Sensors	10 Nos.	
6	Temperature Monitor	1 No.	
7	Feedthrough	6 Nos.	
8	Liquid Nitrogen Solenoid valve	2 Nos.	
9	Residual Gas Analyzer	2 Nos.	
10	Stabil Ion gauge	2 Nos.	
11	Pressure Transducer	2 Nos.	
13	Differential Pressure transducer	1 No.	
14	Safety Relief valve (LN2 Line)	2 Nos.	
15	Rupture Disc (LN2 line)	1 No.	
16	List of Required Necessary Accessories for CTC as per APPENDIX-2:	1 Supply.	
17	Control And Monitoring System including 1. PLC: 1 No. 2. Control Panel: 1 No. 3. Industrial Computer: 1 No. 4. Monitor: 1 No.	1 System	

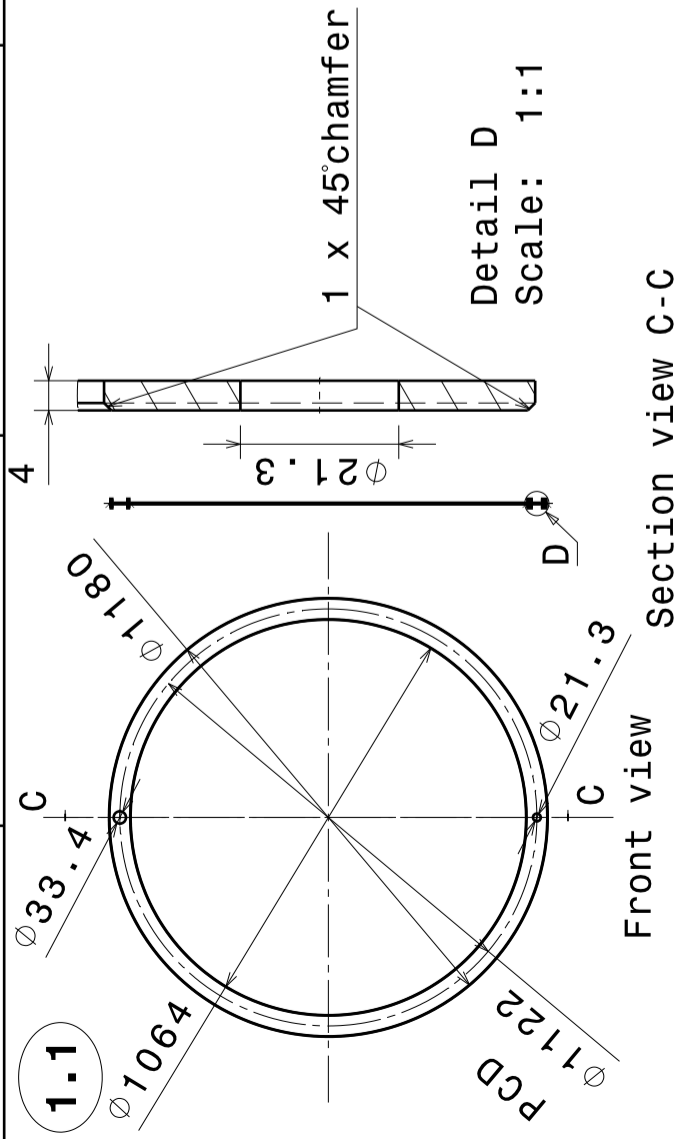
Name and Singarue of Authorized Signatory

Designation of Authorized Signatory

Place : _____

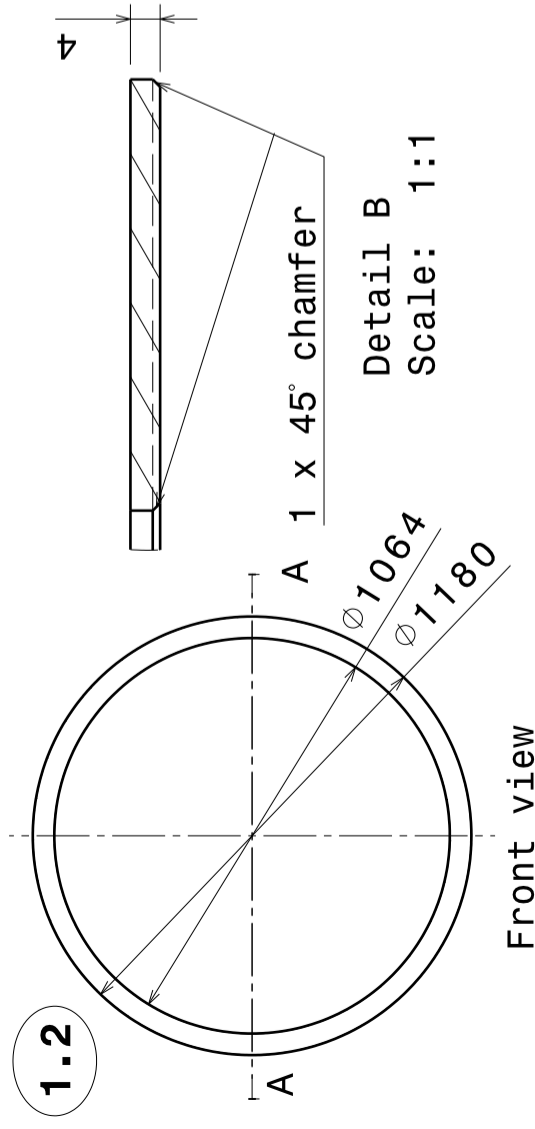
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I										A									
L										B									
W										C									
D										D									
1580										16 CF flange with threaded holes									
140										25 KF coupling									
1580										M6 nuts									
15										cap 1" to 1-1/2" pipe									
10										cap 1/2" to 1-1/2" pipe									
10										1-1/2" pipe sch 10									
15										1" sch 10 pipe									
10										1/2" sch 10 pipe									
15										Panel mounting bar									
10										Rear shield mounting ring									
10										baffel mounting clamp									
15										LN2 bath inner pipe									
10										LN2 bath outer pipe									
10										LN2 bath annular ring-2									
10										LN2 bath annular ring-1									
10										Material Remark									
10										Qty.									
10										Sr. No.									
10										Part Name									
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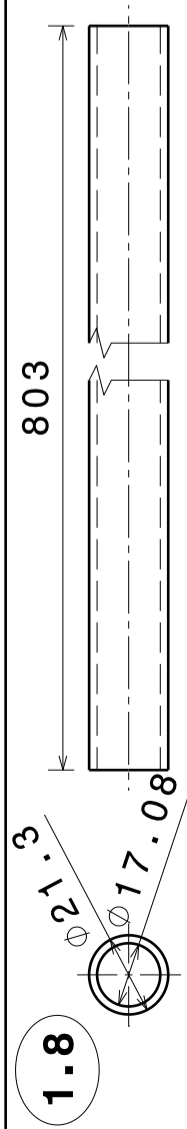
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Scale: 1:20

LN2 bath annular ring-1

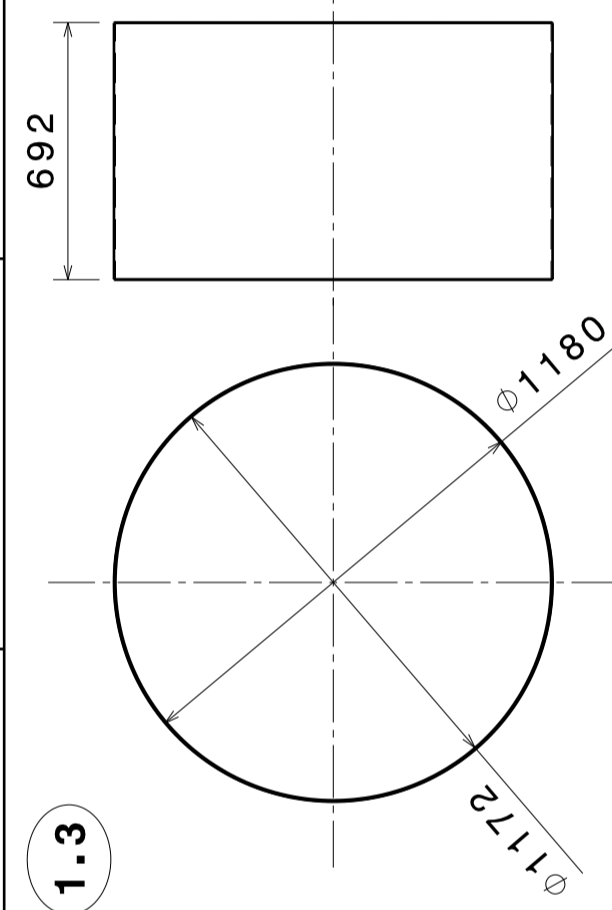


Qty. :01
Material : SS304L
Scale: 1:20

LN2 bath annular ring-2

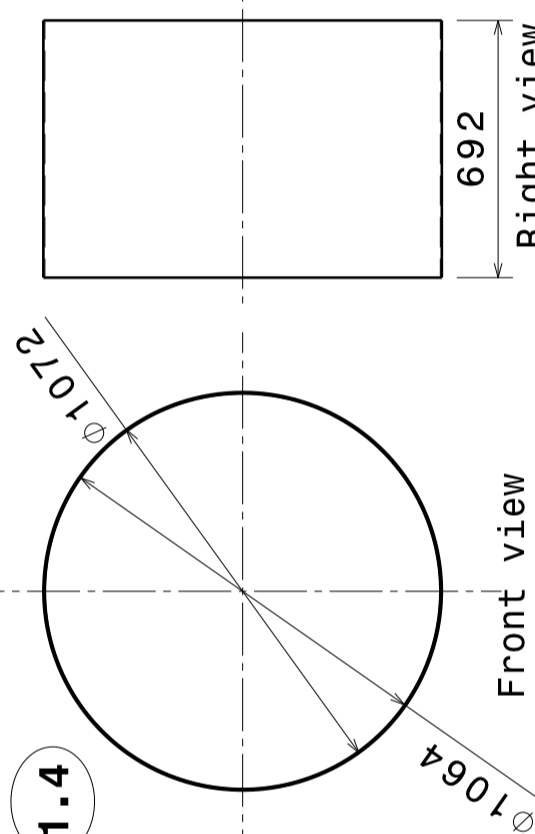


Front view **1/2" sch 10 pipe** Right view Qty. :01 Material : SS304L Scale: 1:2



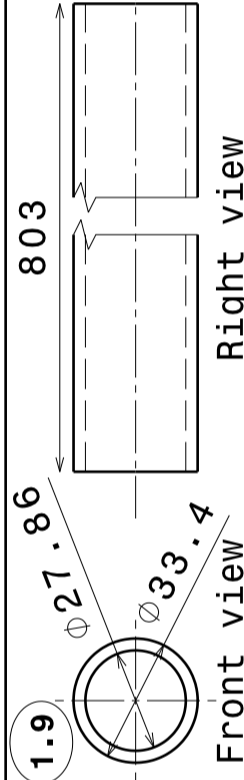
Qty. :01
Material : SS304L
Scale: 1:20

LN2 bath outer pipe

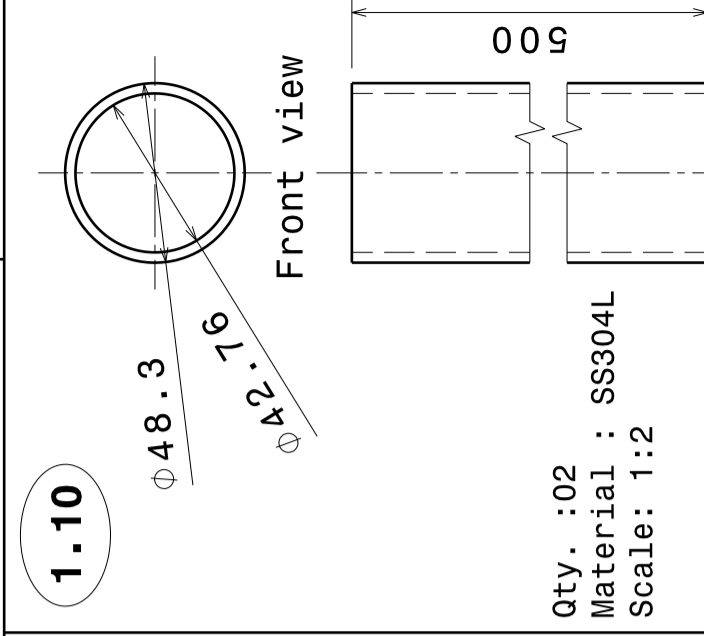


Inner edges (bothside) of pipe are 1 x 45° chamfer	Qty. :01 Material:SS304L Scale: 1:20
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LN2 bath inner pipe

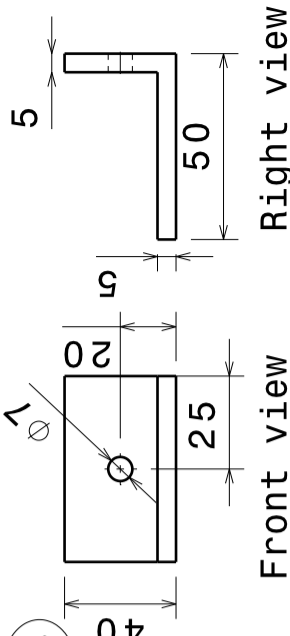


Front view $\frac{x}{x}$ Right view
Qty. : 01
Material : SS304L



Qty. :02
Material : SS304L
Scale: 1:2

1-1/2" sch 10 pipe




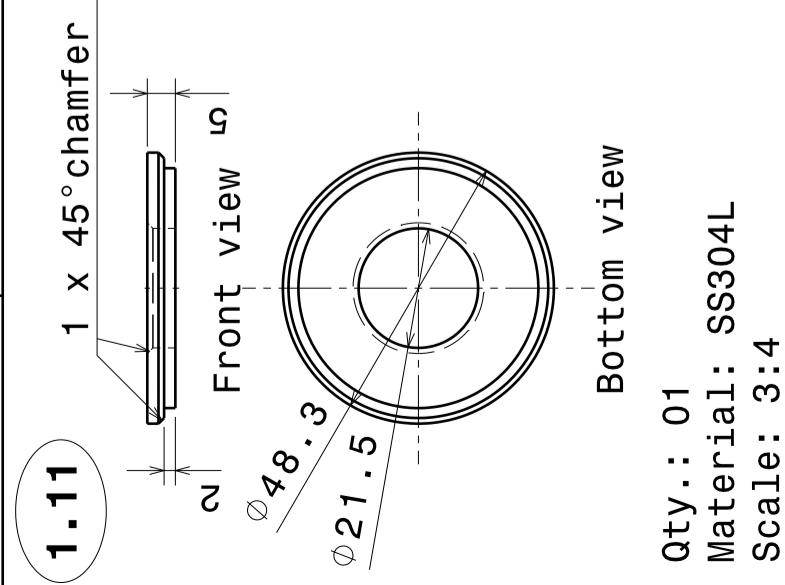
Qty. :08
Material:OFHC
Scale: 1:2

Baffle mounting clamp

Note: Please follow the table for tolerance and surface finish.

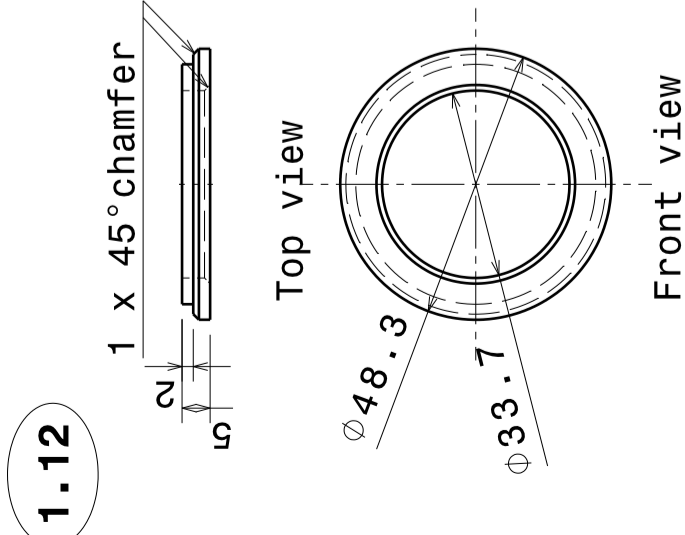
DRG.NO	▽ 8-25	▽▽ 1.6-8	▽▽▽ 0.025-1.6	▽▽▽▽ < 0.025
MACHINING DEVIATIONS FOR NON-TOLERANCED DIMENSIONS				
LENGTH IN mm OF SHORTER SIDE OF ANGLES		LENGTH		
UP TO 10	10-50	50-120	OVER 120-400	OR DIA
+1° +0°-30'	+0°-30' —	+0°-20' —	+0°-10' —	UP TO 6-30 6 +0.1 —
				30-120 120-315 +0.3 +0.5

EFTD GROUP:		SIZE A3	INSTITUTE FOR PLASMA RESEARCH	
ALL DIMENSIONS ARE IN 'mm' UNLESS OTHERWISE STATED			BHAT, GANDHINAGAR-382 428.	
SCALE	-	DATE	 THIRD ANGLE PROJECTION	
DRAWN	HSA			
CHECKED	SSM		LN2 bath detailed drawing - 1	
			REF DRG NO:	
APPROVED			DRG.NO	IPR/CTC/2022/02
			SHEET 3 OF 19	



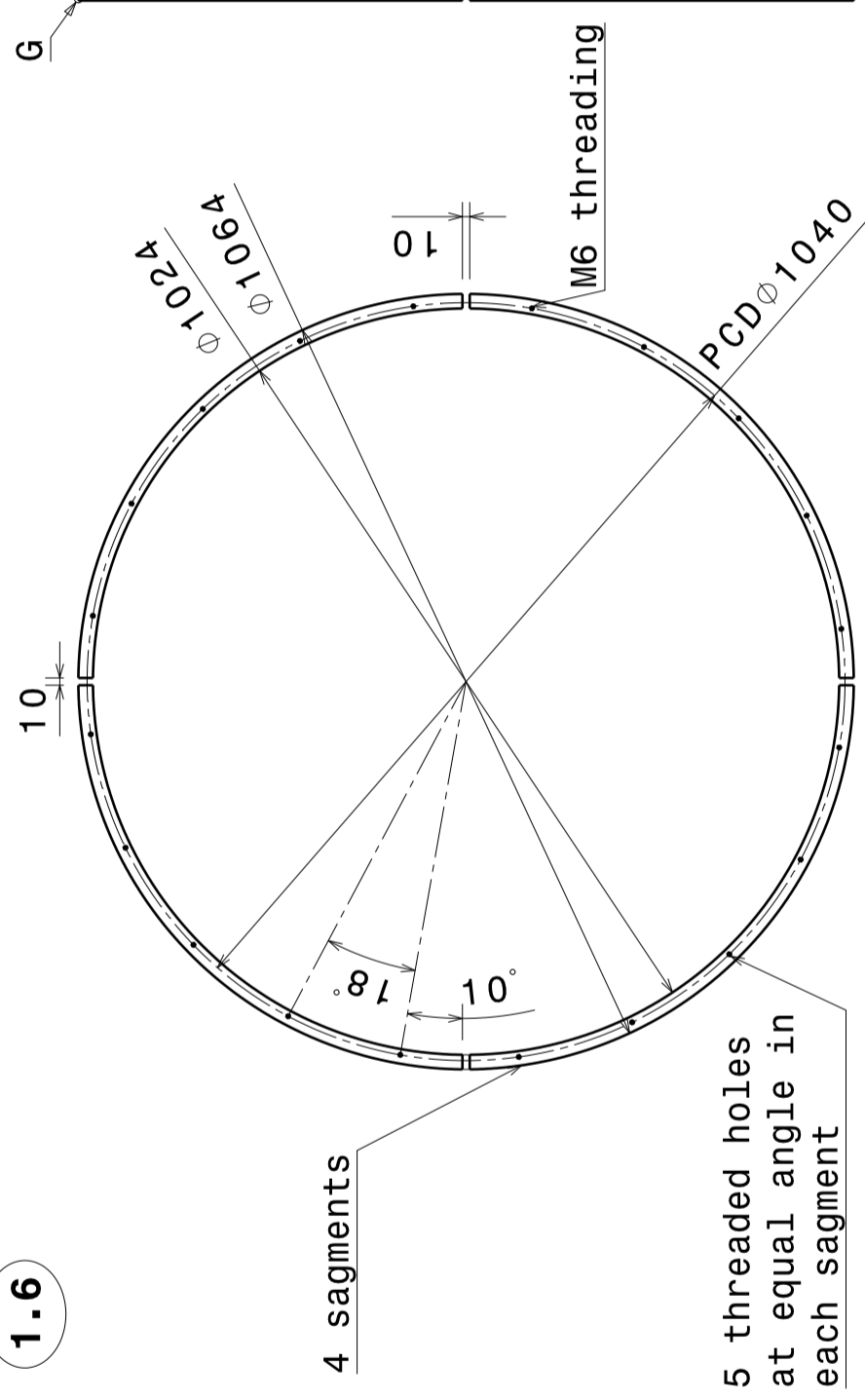
Qty.: 01
Material: SS304L
Scale: 3:4

1-1/2" to 1 1/2" pipe cap



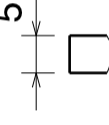
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Material: SS304L
Scale: 3:4

1" to 1/2" pipe cap



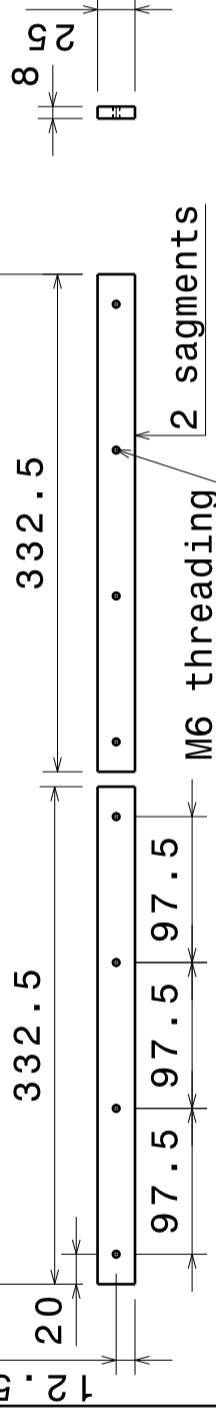
Qty.: 01
Material: OFHC
Scale: 1:10

Rear shield mounting ring



Detail G
Scale: 1:1

Right view
Scale: 1:10

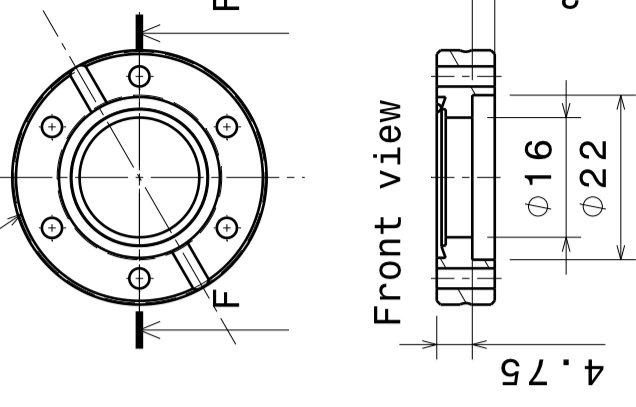


Front view
Scale: 1:5

Right view
Scale: 1:5

Qty.: 12
Material: OFHC
Scale: 1:5

Panel mounting bar



Qty.: 01
Material: SS304L
Scale: 1:1

16 CF flange with threaded holes

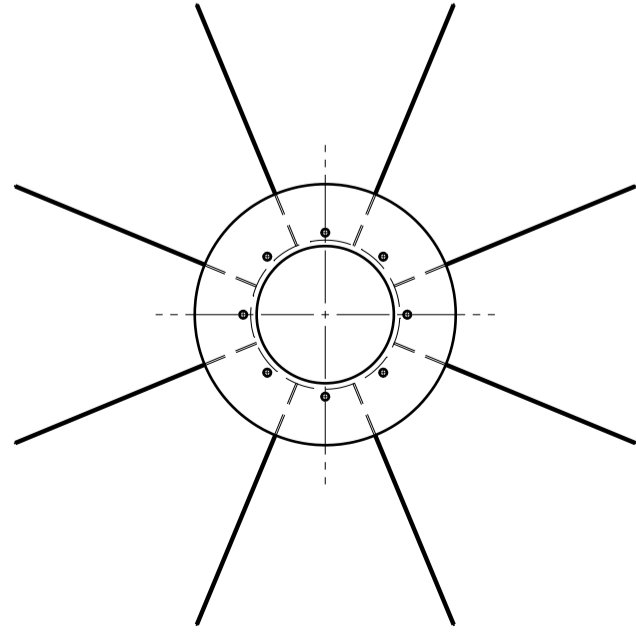
Note: Please follow the table for tolerance and surface finish.

DRG. NO	▽ 8-25	▽▽ 1.6-8	▽▽▽ 0.025-1.6	▽▽▽▽ < 0.025
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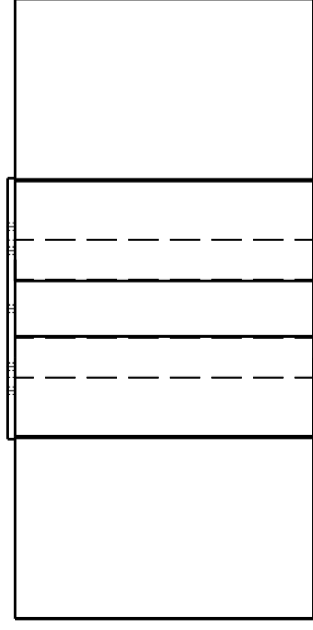
MACHINING DEVIATIONS FOR NON-TOLERANCED DIMENSIONS

LENGTH IN mm OF SHORTER SIDE OF ANGLES			LENGTH OR DIA	UP TO 6	6-30	30-120	120-315
UP TO 10	10-50	50-120					
+1 ⁺ -1 ⁻	+0 ⁺ ·30' -0 ⁻ ·30'	+0 ⁺ ·20' -0 ⁻ ·20'	+0 ⁺ ·10' -0 ⁻ ·10'	+0.1 ₋	+0.2 ₋	+0.3 ₋	+0.5 ₋

EFTD GROUP:		SIZE A3	INSTITUTE FOR PLASMA RESEARCH	
ALL DIMENSIONS ARE IN 'mm' UNLESS OTHERWISE STATED			BHAT, GANDHINAGAR-382 428.	
SCALE	-	DATE	LN2 bath detailed drawing-2	
DRAWN	HSA			
CHECKED	SSM			
APPROVED				
		REF	DRG NO:	
		DRG.NO	IPR/CTC/2022/03	
			SHEET 4 OF 19	

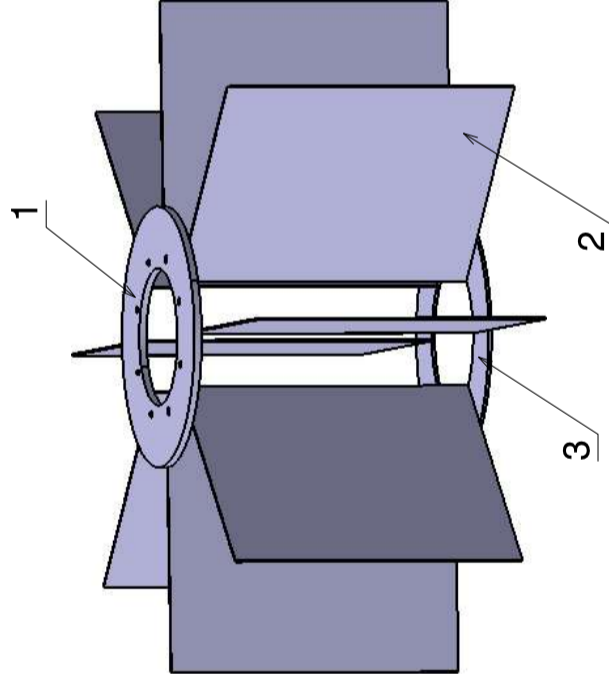


Front view



Bottom view

use Silver brazing to joint all parts.

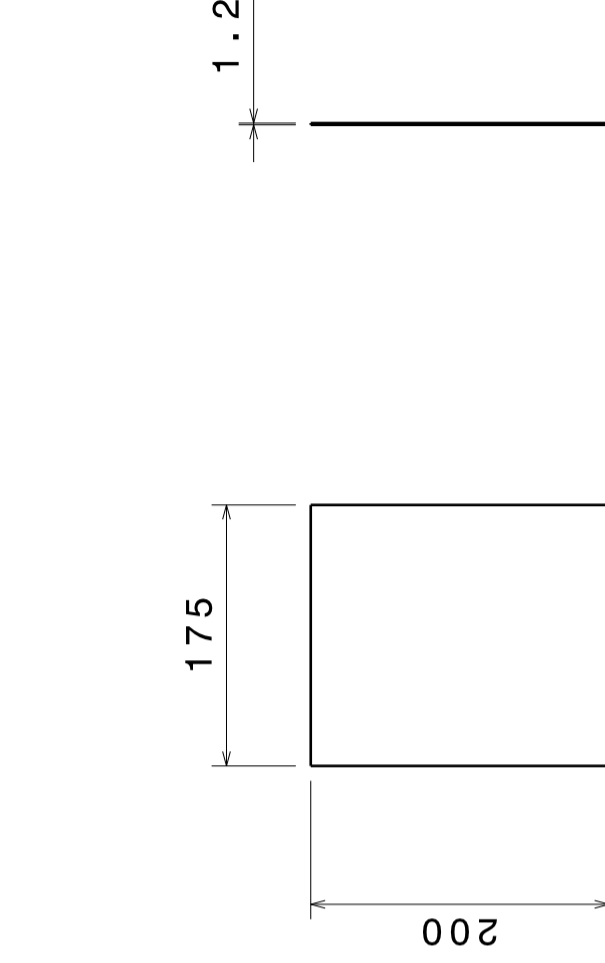


Isometric view

Qty. : 01

panel

Qty.: 08
material : OFHC

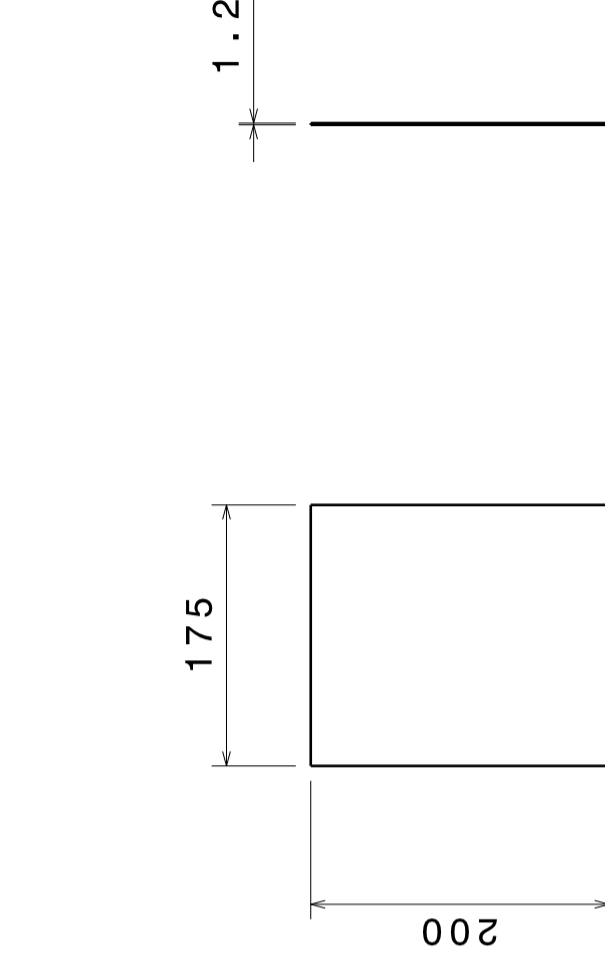


Front view

Right view

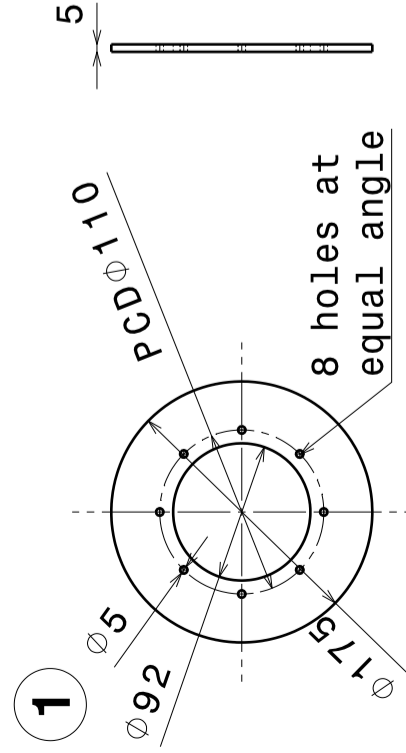
panel

Qty.: 08
material : OFHC

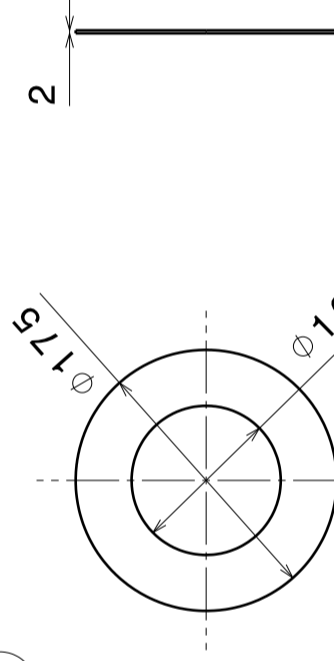


Front view

Right view



Front view



Front view

Right view

Qty.: 01
material : OFHC

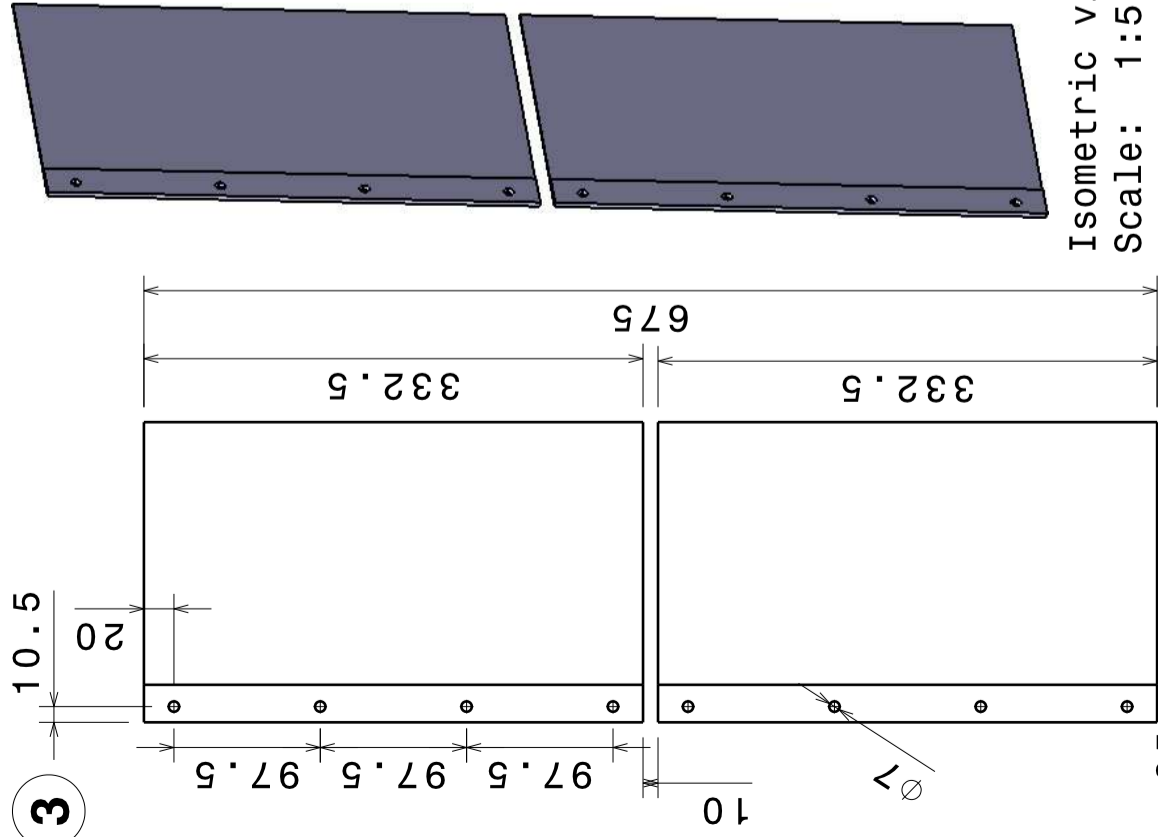
Mounting plate

Qty.: 01
material : OFHC

Support ring

Note: Please follow the table for tolerance and surface finish.

DRG.NO	▽ 8-25	▽ 1.6-8	▽ 0.025-1.6	▽ 0.025
MACHINING DEVIATIONS FOR NON-TOLERANCED DIMENSIONS				
LENGTH IN mm OF SHORTER SIDE OF ANGLES		UPTO 6-30 120-315 LENGTH OR DIA UPTO 6-30 120-315		
UPTO 10	10-50	50-120	OVER 120-400	
+1 ₋	+0 ₋ ·30 ₋	+0 ₋ ·20 ₋	+0 ₋ ·10 ₋	
EFTD GROUP:		SIZE A3	INSTITUTE FOR PLASMA RESEARCH	
ALL DIMENSIONS ARE IN 'mm'		BHAT, GANDHINAGAR-382 428.		
UNLESS OTHERWISE STATED				
SCALE	-	DATE	Stage-1 panel	
DRAWN	HSA			
CHECKED	SSM		REF DRG NO:	Scale : 1:5
APPROVED			DRG.NO	SHEET 5 OF 19
			IPR/CTC/2022/04	



Isometric view
Scale: 1:5

2 segments

Scale: 1:5

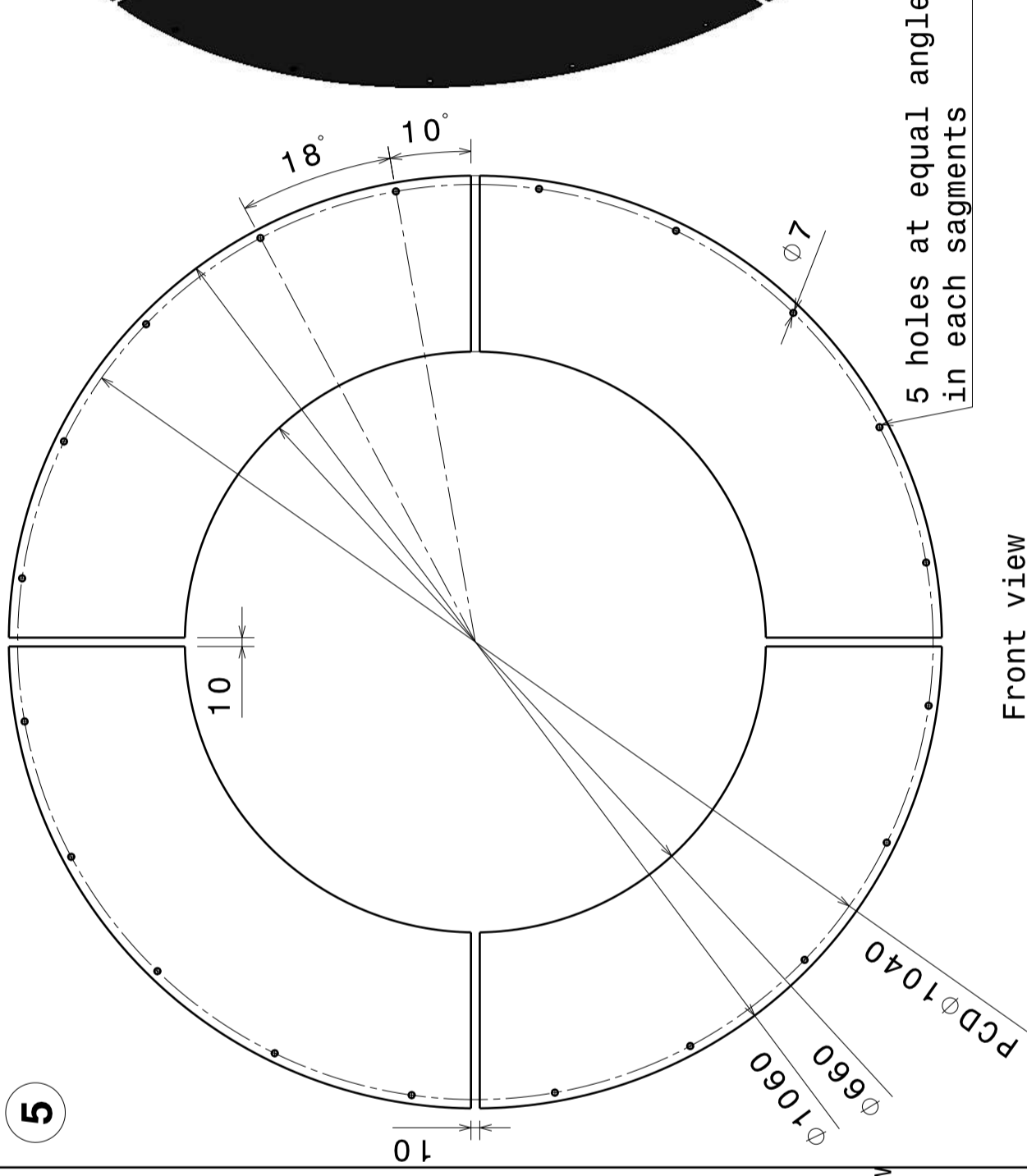
Bottom view
Scale: 1:5

A number line is shown with a point labeled 3.5. To the right of 3.5, there is a bracket indicating a distance of 0.5 units, with a box above it for the answer.

Detail G
Scale: 1:1

Qty. : 12
Material : OFHC
Scale : 1:5

Array panel



5 holes at equal angle
in each segments

Front view
Scale: 1:7

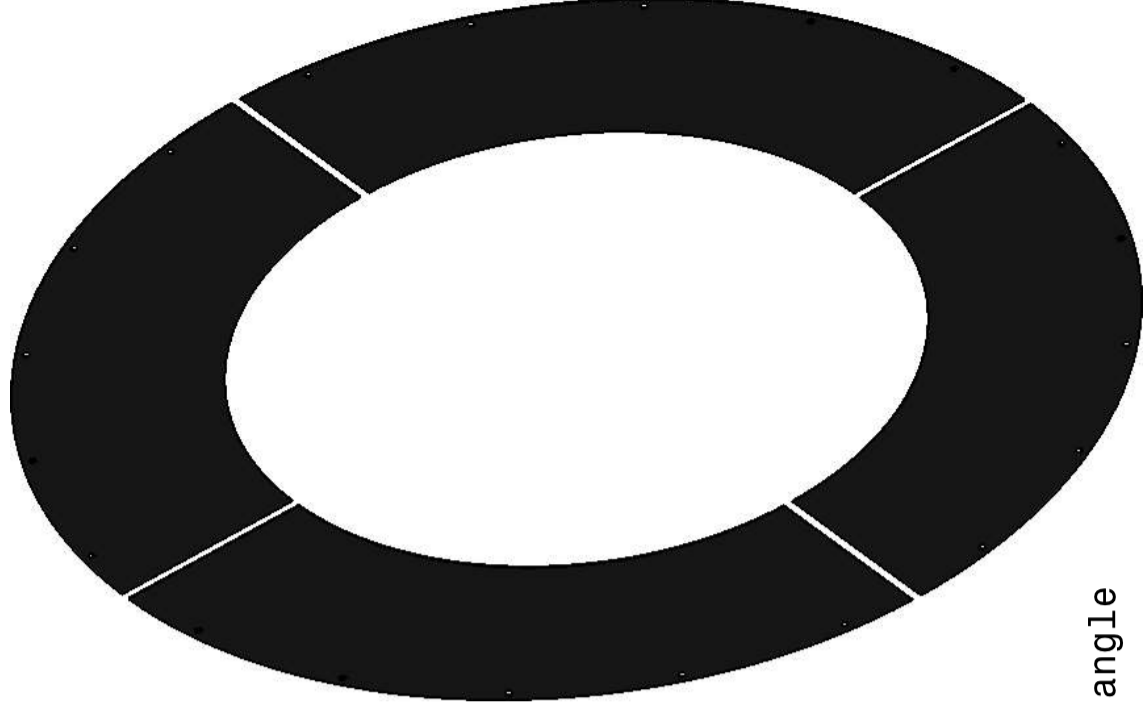
Bottom view
Scale: 1:7

Qty. : 1
Material
Scale :

Detail C
Scale: 1:1

4 segment of rear shield

Rear shield



Isometric view
Scale: 1:7

Note: Please follow the table for tolerance and surface finish.

DRG. NO	▽ 8-25	▽ 1.6-8	▽ 0.025-1.6	▽ 0.025

MACHINING DEVIATIONS FOR NON-TOLERANCED DIMENSIONS

LENGTH IN mm OF SHORTER SIDE OF ANGLES		UPTO 6	6-30	30-120	120-315

	UPTO 10	10-50	50-120	OVER 120-400	OR	DIA
					+0.1	+0.2
					+0.1	+0.3
					+0.1	+0.5

	-	+0-1	+0-2	+0-3	+1	+1
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SIZE	A3	INSTITUTE FOR PLASMA RESEARCH

RE IN 'mm'
STATED

	DATE	
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SA	THIRD ANGLE PROJECTION	Array panel & rear shield
SA		

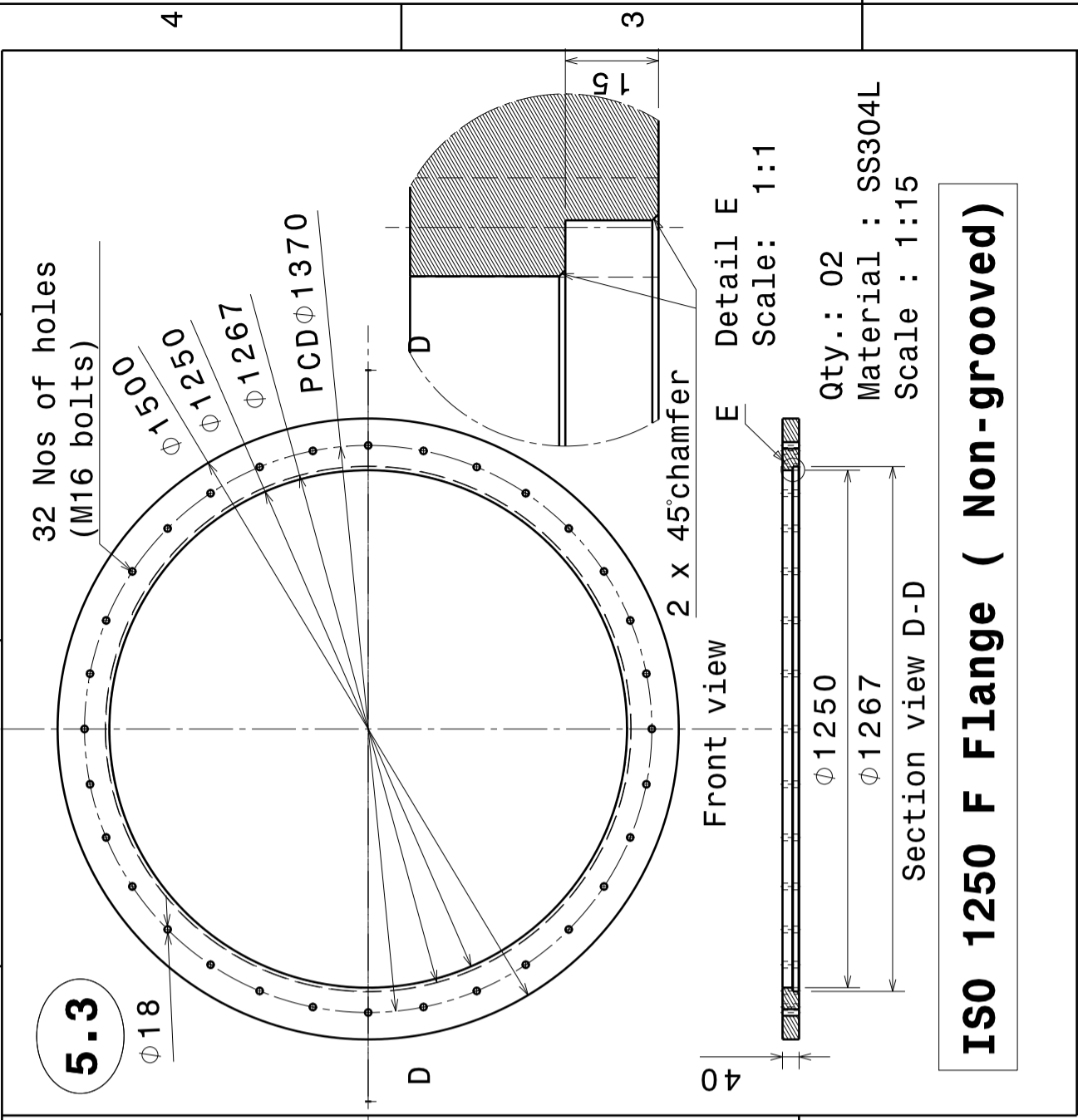
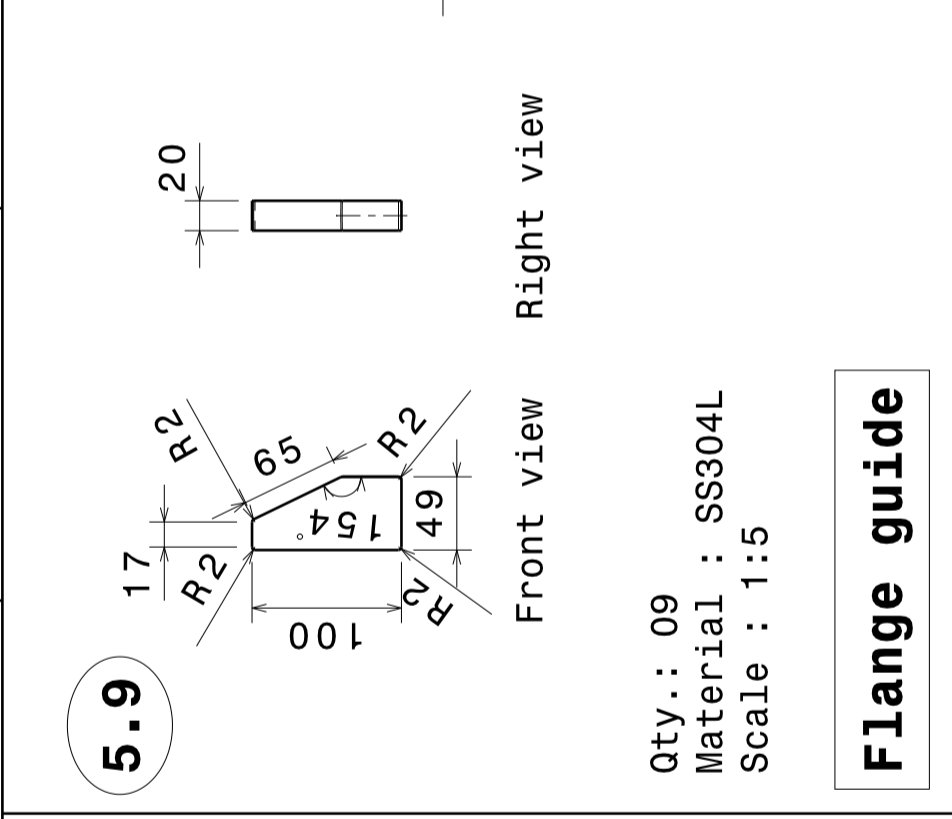
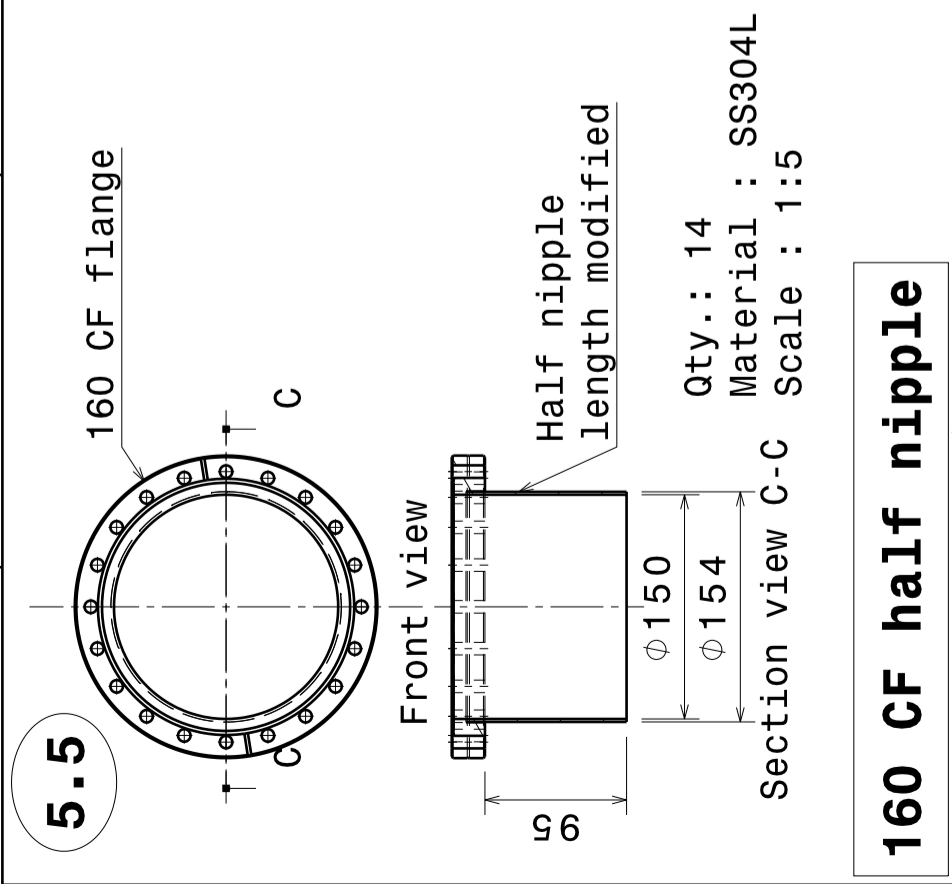
M		REF	PRO	NO.		REV	00
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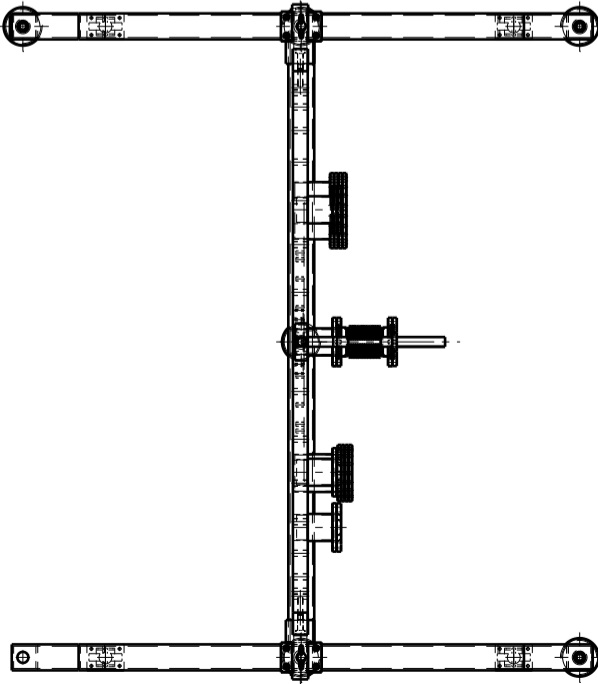
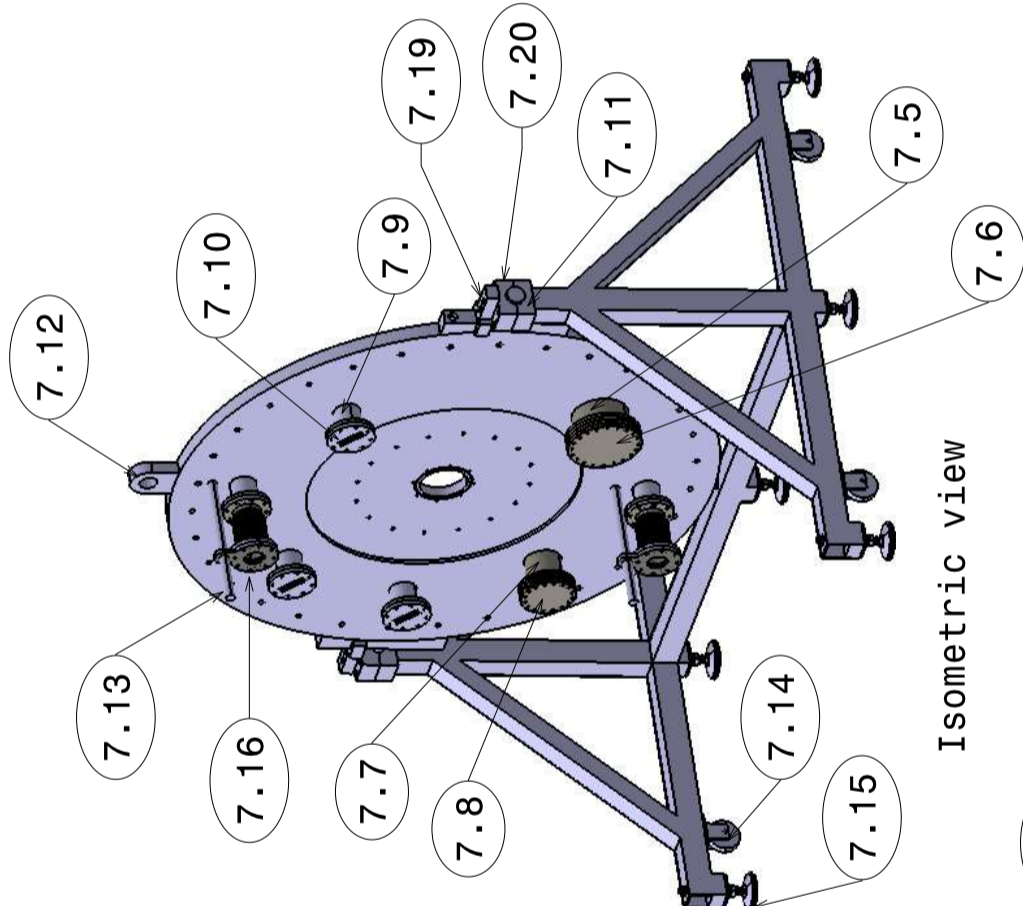
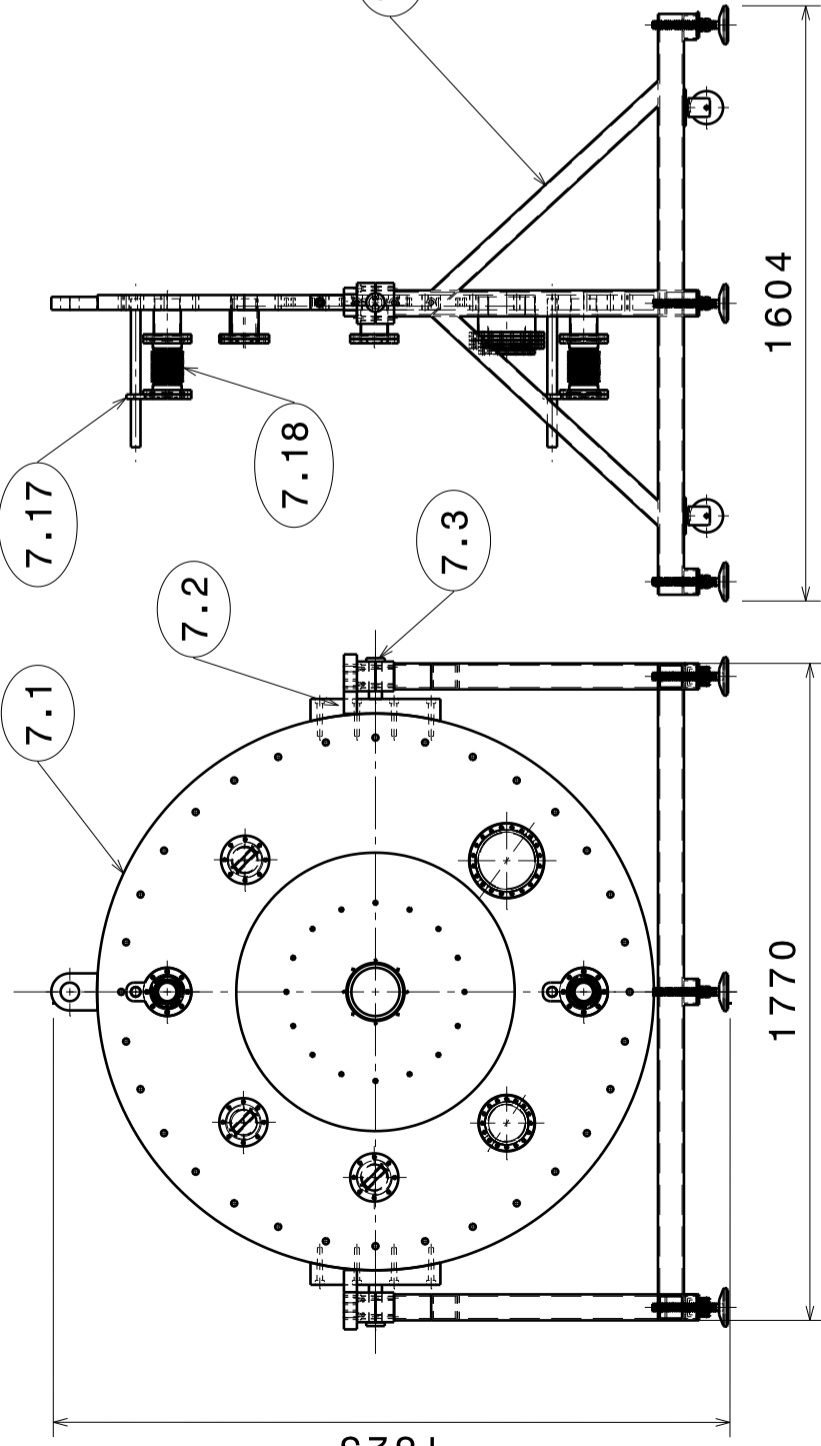
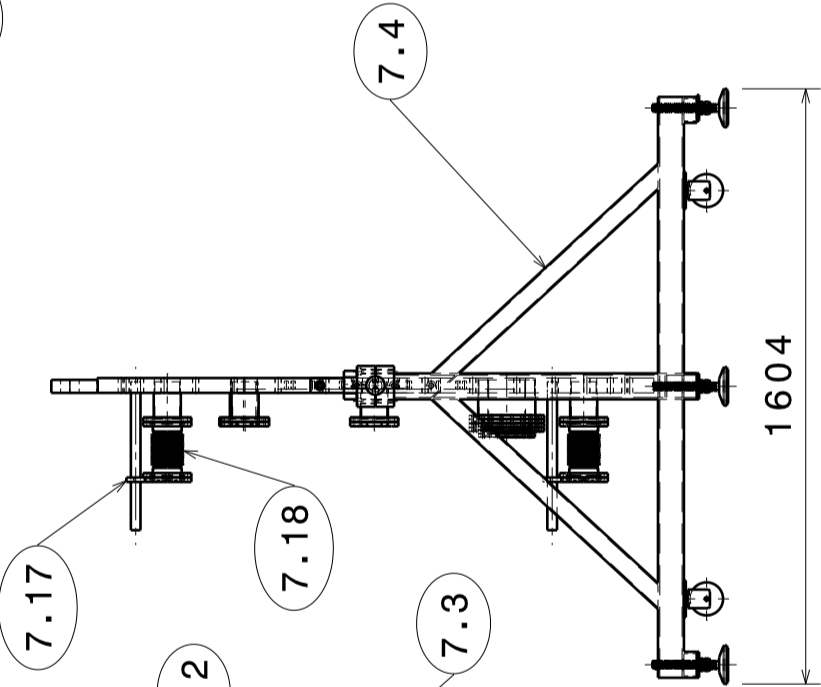
REV	3			
SHEET				

		DRG.No	IPR/CIC/ZUZZ/U6	7 OF 19
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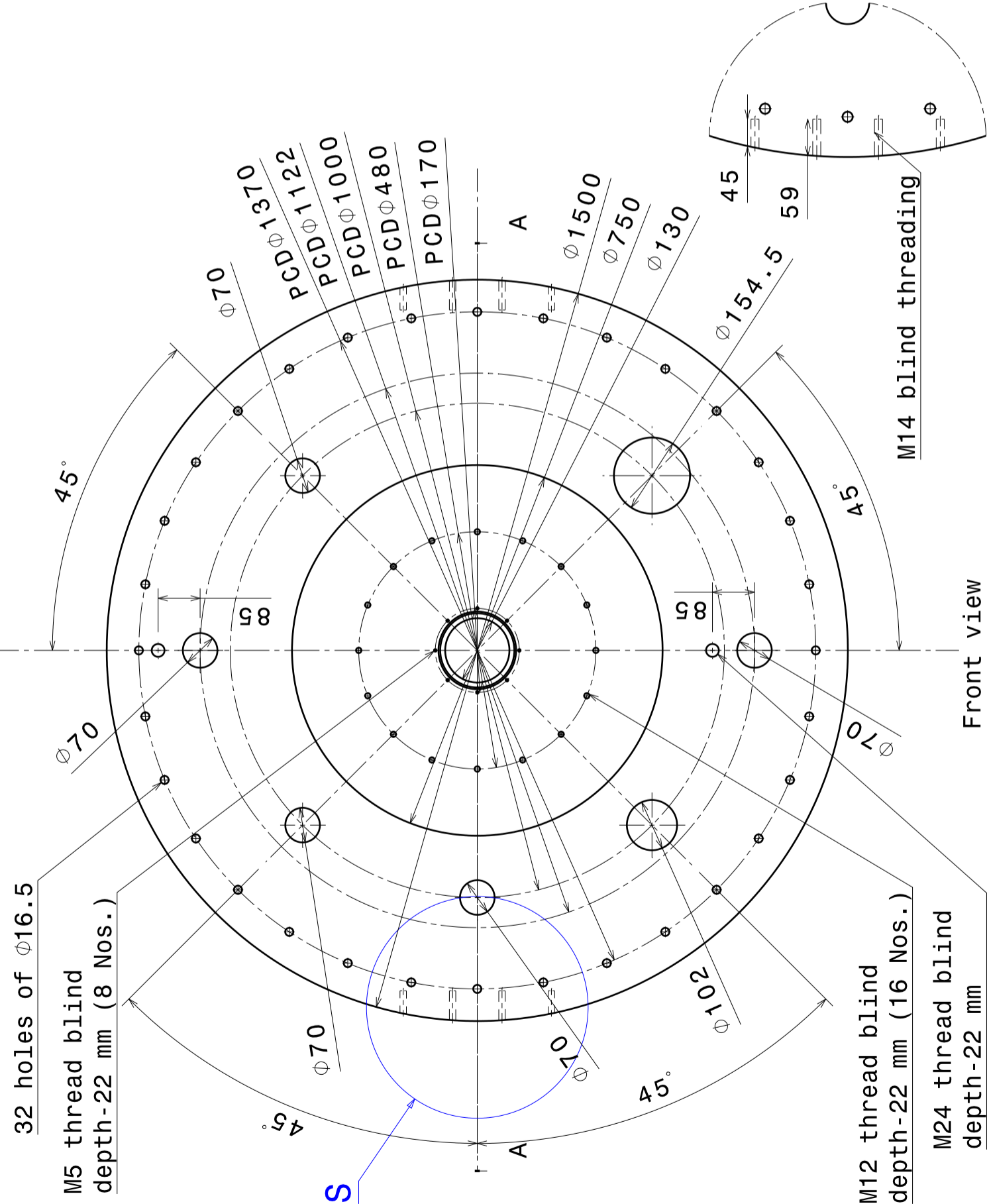
[illegible]



H				G				F				E				D				C				B				A			
4				3				2				1																			
																															
Top view				Isometric view				Front view				Right view																			

Note: Please follow the table for tolerance and surface finish.

7.1



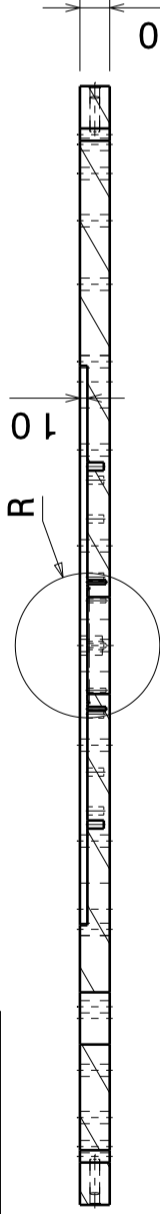
Oring groove for
Cold head flange

End flange

Detail R
Scale: 1:3

Qty.: 01
Material: SS304L
Scale 1:10

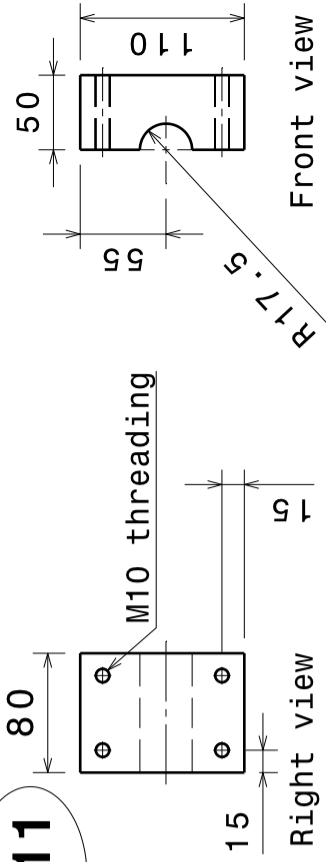
Front view



Section view A-A

Detail S
Scale: 1:8

7.11



rotating pin clamp-1

Qty.: 02
Material: SS304L
Scale 1:7

Note: Please follow the table for
tolerance and surface finish.

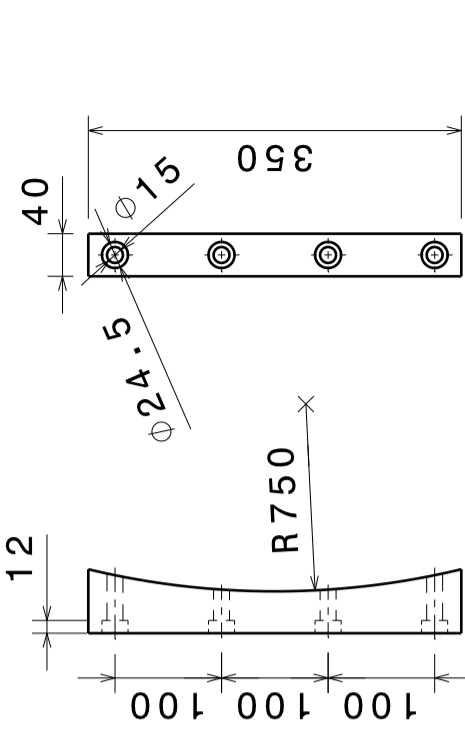
DRG.NO	▽ 8-25	▽ 1.6-8	▽ 0.025-1.6	▽ 0.025 < 0.025
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MACHINING DEVIATIONS FOR NON-TOLERANCED DIMENSIONS

LENGTH IN mm OF SHORTER SIDE OF ANGLES		LENGTH		OR	
UPTO	10	10-50	50-120	OVER 120-400	120-315
+	1'	+0'-30'	+0'-20'	+0'-10'	+0.3
-					+0.5

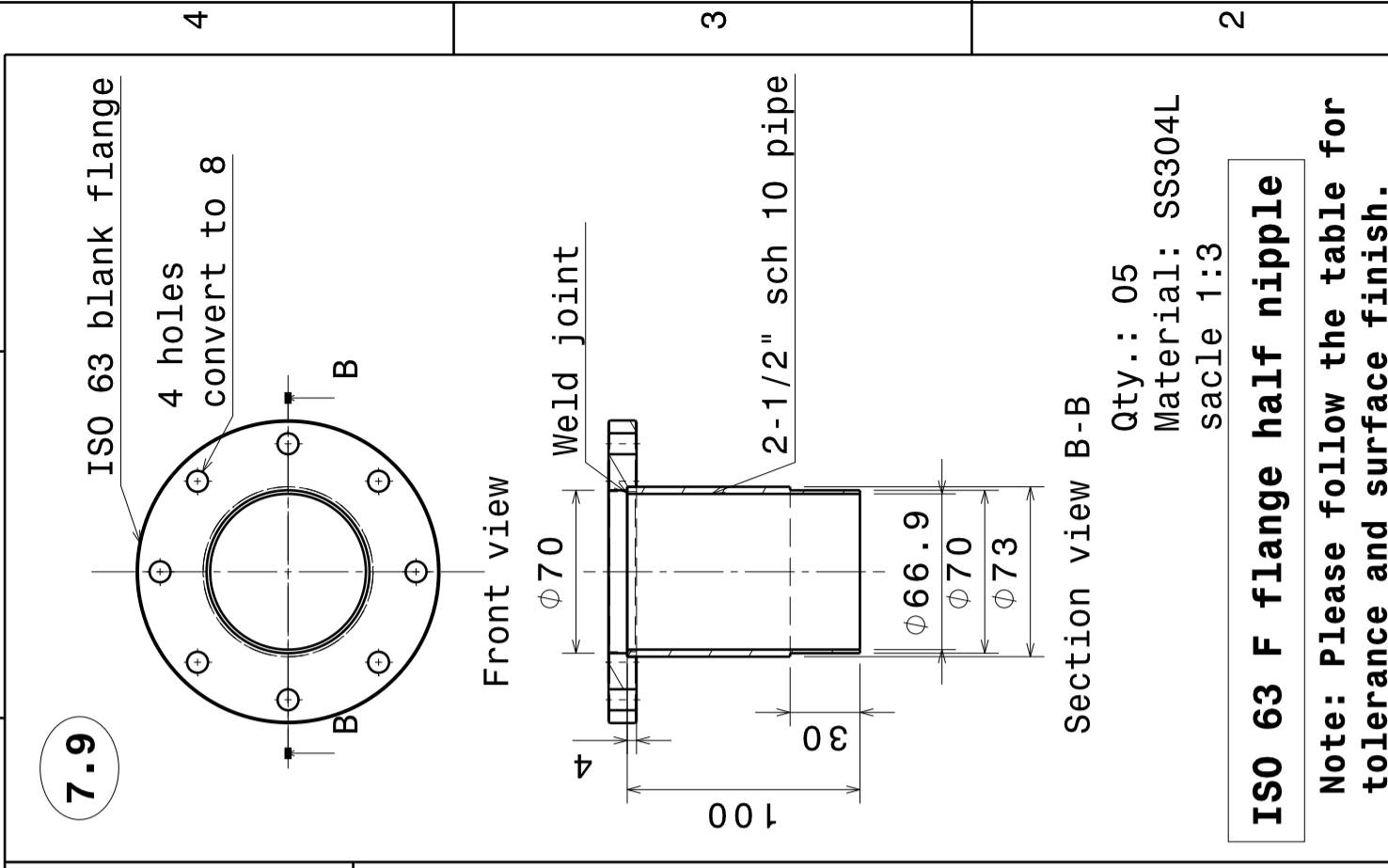
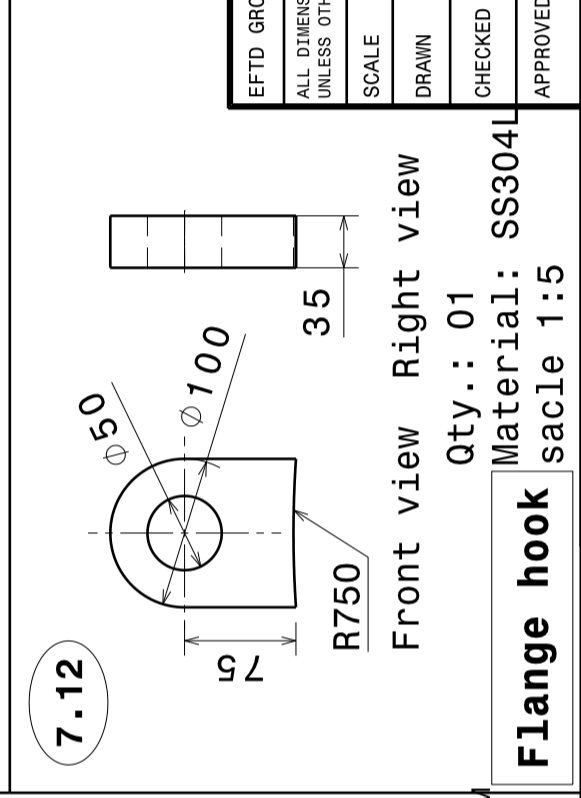
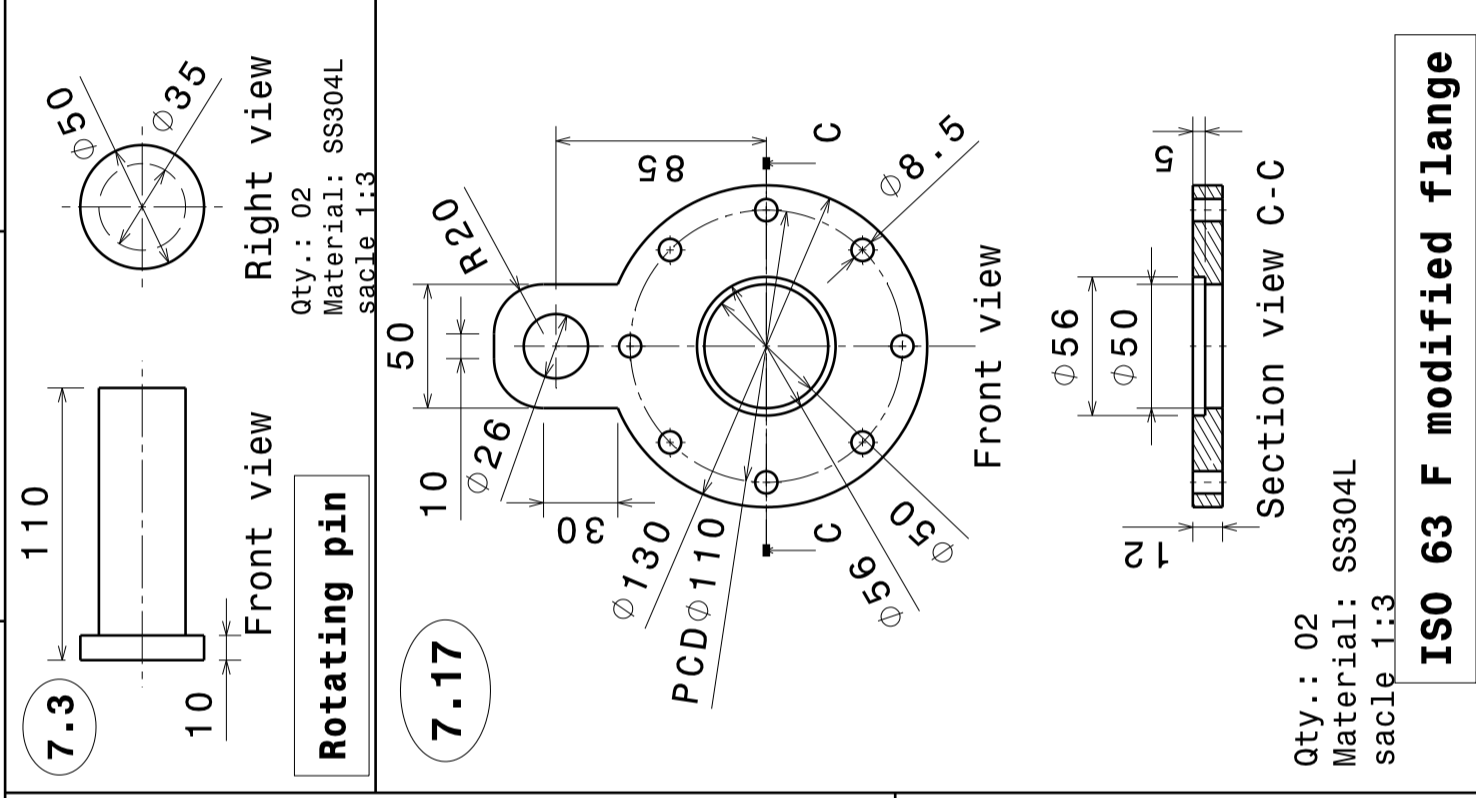
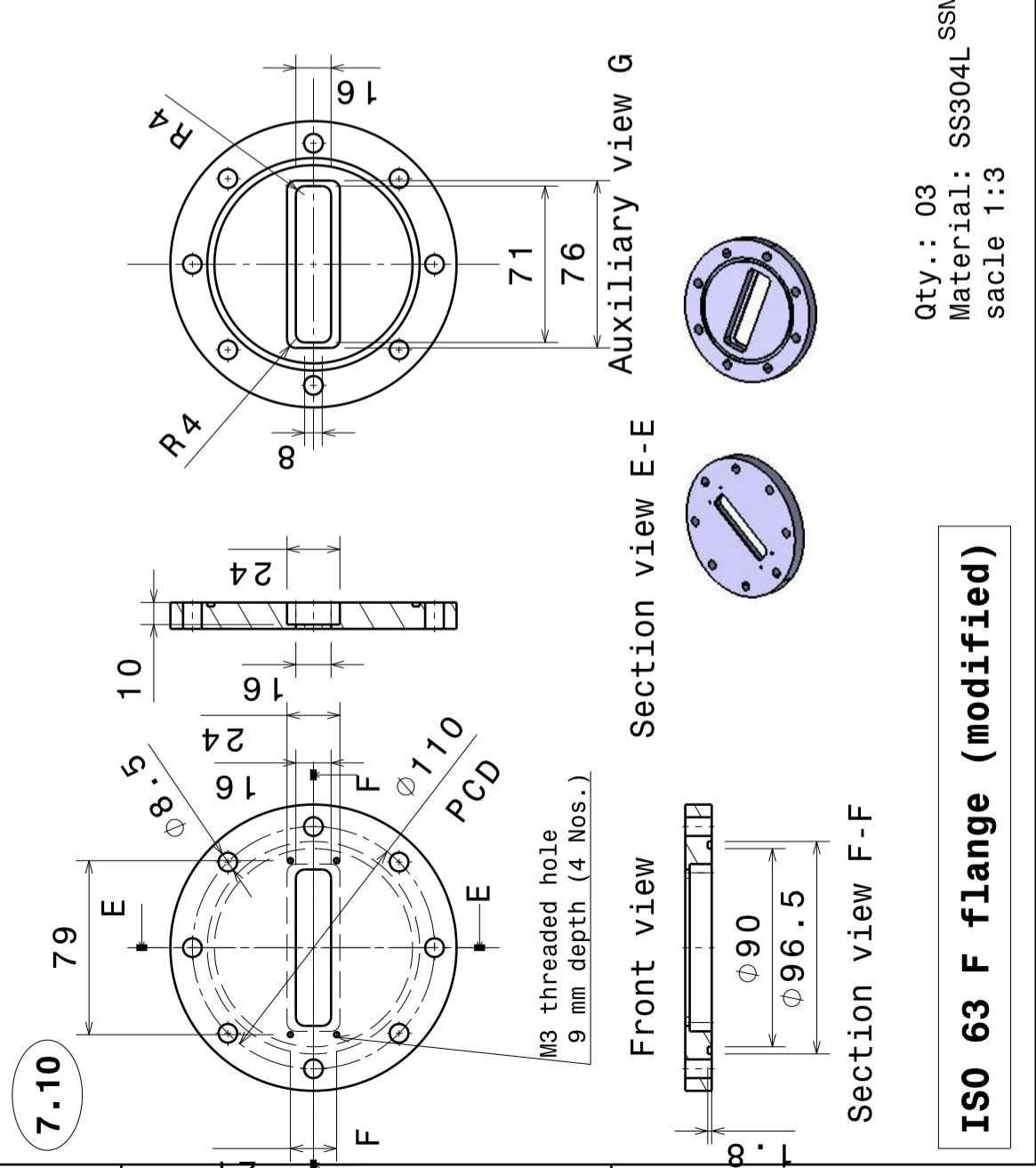
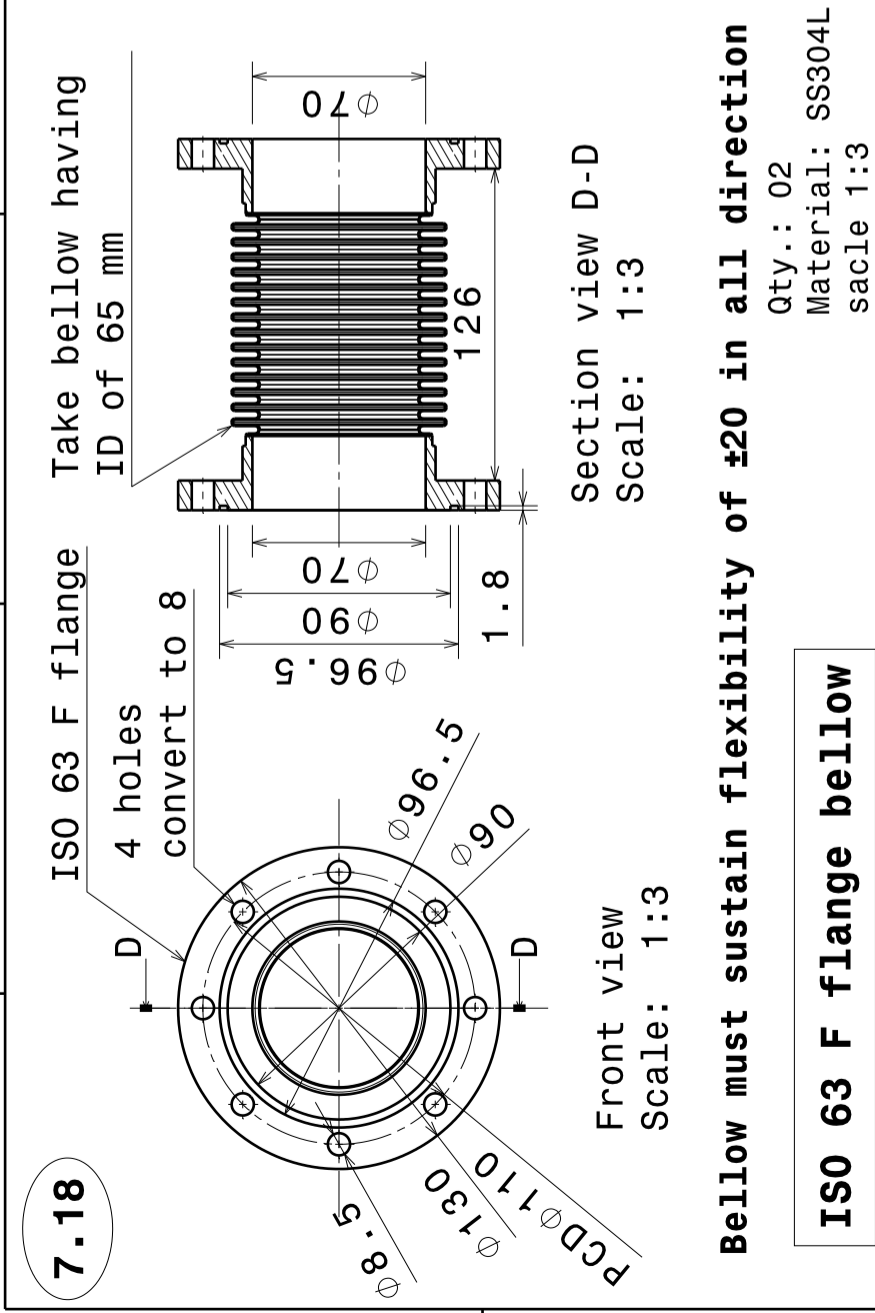
EFTD GROUP:	SIZE A3	INSTITUTE FOR PLASMA RESEARCH	
ALL DIMENSIONS ARE IN 'mm' UNLESS OTHERWISE STATED		BHAT, GANDHINAGAR-382 428.	
SCALE	-	DATE	End flange detailed drawing-1
DRAWN	HSA		
CHECKED	SSM	REF DRG NO:	REV 00
APPROVED		DRG.NO	SHEET 16 OF 19
		IPR/CTC/2022/15	

7.2



flange support plate

Qty.: 02
Material: SS304L
Scale 1:7



DRG. NO	▽ 8-25	▽ 1.6-8	▽ 0.025-1.6	▽▽▽ < 0.025
MACHINING DEVIATIONS FOR NON-TOLERANCED DIMENSIONS				
LENGTH IN mm OF SHORTER SIDE OF ANGLES				
LENGTH		UPTO 6-30 30-120 120-315		
UPTO 10	10-50	50-120	OVER 120-400	OR
+0 ⁺ ·30 ⁺	+0 ⁺ ·30 ⁺	+0 ⁺ ·20 ⁺	+0 ⁺ ·10 ⁺	DIA
				+0.1 +0.2 +0.3 +0.5
GROUP:		INSTITUTE FOR PLASMA RESEARCH		
SIZE		BHAT, GANDHINAGAR-382 428.		
A3		END FLANGE DETAILED DRAWING-2		
DIMENSIONS ARE IN 'mm'		REF DRG NO:		
OTHERWISE STATED		REV 00		
DATE		SHEET		
HSA		17 OF 19		

7.12

Orthographic projection of a flange hook. The front view shows a semi-circular hook with a central hole of diameter 50, an outer diameter of 100, and a thickness of 35. The right view shows a rectangular profile with a width of 75 and a height of R750. The drawing is labeled "Flange hook" and includes material and quantity specifications.

Front view Right view

Qty.: 01
Material: SS304
Scale 1:5

Flange hook

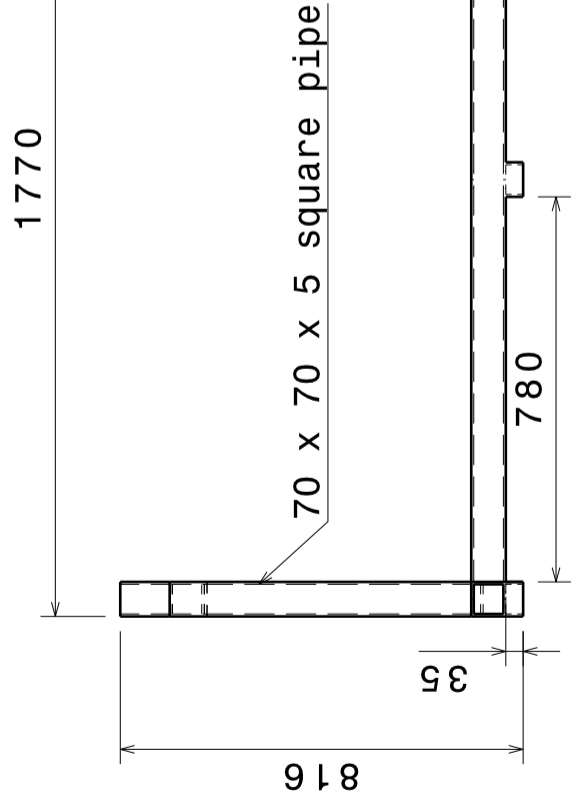
M3 threaded hole
9 mm depth (4 Nos.)

Front view

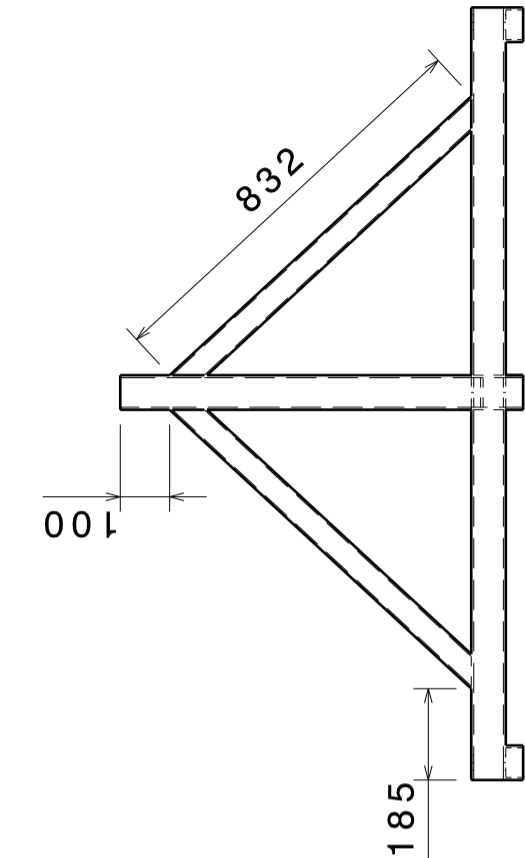
Section view E-E

Auxiliary view G

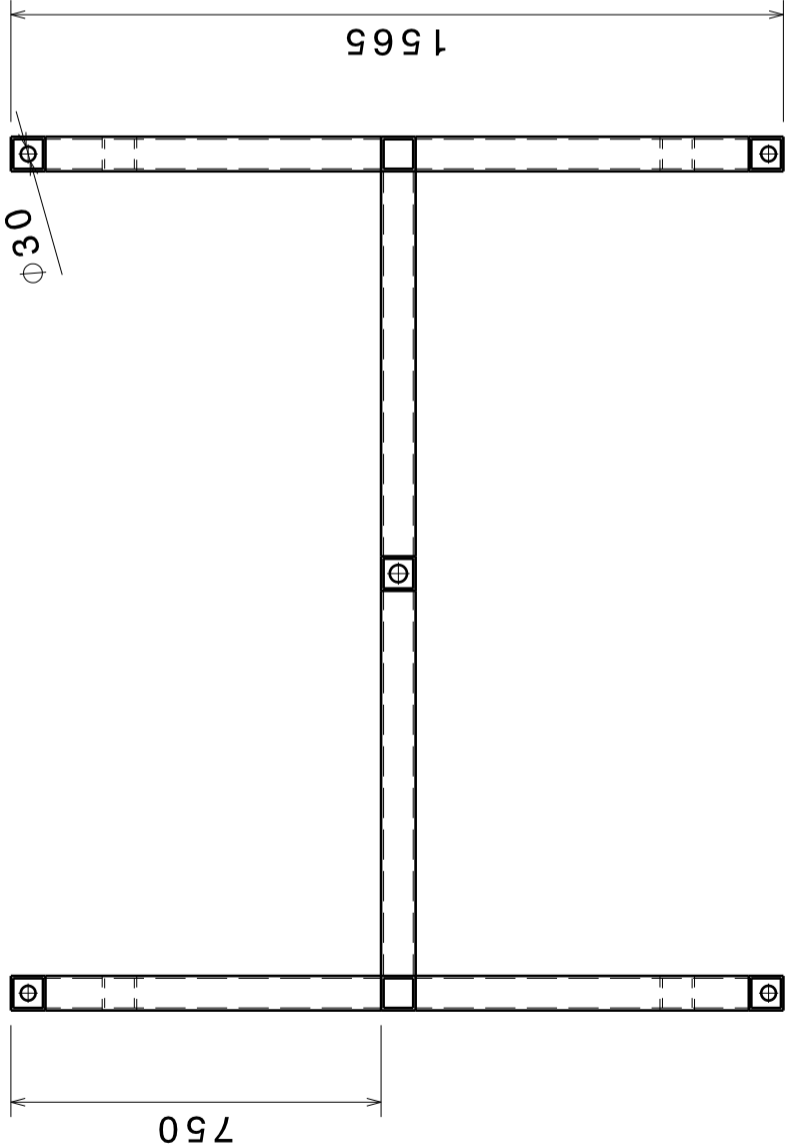
7.4



Front view
Scale: 1:15



Right view
Scale: 1:15



Bottom view
Scale: 1:15

Qty.: 01
Material: SS304L
Scale 1:15

Note: Please follow the table for tolerance and surface finish.

DRG.NO	▽ 8-25	▽▽ 1.6-8	▽▽▽ 0.025-1.6	▽▽▽▽ < 0.025
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MACHINING DEVIATIONS FOR NON-TOLERANCED DIMENSIONS					
LENGTH IN mm OF SHORTER SIDE OF ANGLES		LENGTH		UPTO	
UPTO 10		10-50	50-120	OVER 120-400	OR
+1'		+0'-30'	+0'-20'	+0'-10'	DIA
					+0.1
					+0.2
					+0.3
					+0.5

EFTD GROUP:	SIZE A3	INSTITUTE FOR PLASMA RESEARCH			
ALL DIMENSIONS ARE IN 'mm'		BHAT, GANDHINAGAR-382 428.			
SCALE	-	DATE	End flange detailed drawing-4		
DRAWN	HSA				
CHECKED	SSM				
APPROVED					
REF DRG NO:		REV 00		SHEET 16 OF 19	
IPR/CTC/2022/18		IPR/CTC/2022/18		IPR/CTC/2022/18	

SECTION 'E':

PRICE SCHEDULE

Validate

Print

Help

Item Rate BoQ

Tender Inviting Authority: Head - Purchase Section

Name of Work: Fabrication, Testing, Supply, Installation & Final Acceptance Tests at IPR of Cryopumping Test Chambers as per the detailed technical specifications and bill of material (BOM) mentioned in the tender document – 1 System

Tender No. IPR/TN/PUR/TPT/ET/22-23/006 Dated 31/08/2022

Name of the Bidder/ Bidding Firm / Company :									
PRICE SCHEDULE									
(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)									
NUMBER #	TEXT #	NUMBER #	TEXT #	NUMBER	TEXT	TEXT #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Quantity	Units	Applicable GST in %	HSN/SAC Code	Quoted Currency in INR / Other Currency	BASIC RATE In Figures To be entered by the Bidder in Rs. P	TOTAL AMOUNT Without Taxes in Rs. P	TOTAL AMOUNT In Words
1	2	4	5	7	8	12	13	53	55
1	Fabrication, Testing, Supply, Installation & Final Acceptance Tests at IPR of Cryopumping Test Chamber as per the detailed technical specifications and bill of material (BOM) mentioned in the tender document								
1.01	Fabrication, Testing and Supply including Unloading of Cryopumping Test Chamber (CTC) as per the scope of the tender with required • Vacuum, cryogenic and measurement devices • Control and Monitoring System • Necessary Accessories for CTC (Refer Annexdix-8 for complete list of deliverables) [Refer Section-D of tender documents for details technical specifications, Bill of Material and Other scope of the tender]	1.000	System			INR		0.00	INR Zero Only
1.02	Installation and commissioning of the entire Cryopumping Test Chamber (CTC) as per the scope of the tender including shifting and material movement with handling equipment at IPR site	1.000	Job			INR		0.00	INR Zero Only
Total in Figures								0.00	INR Zero Only
Quoted Rate in Words		INR Zero Only							