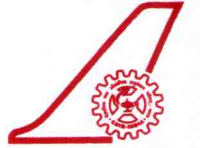


वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद्  
Council of Scientific & Industrial Research  
राष्ट्रीय वांतरिक्ष प्रयोगशालाएं  
National Aerospace Laboratories



CSIR - NAL Estd. 1959  
ISO 9001 : 2015  
Certified Organization

INVITATION FOR TENDERS

Tender No. CCFP/PUR/2K22/064

Dated: 26/10/2022

CSIR - National Aerospace Laboratories (NAL), Bengaluru, Republic of India, is one of the premier research laboratories under aegis of Council of Scientific and Industrial Research (CSIR), an autonomous body under the Department of Scientific and Industrial Research, Government of India, New Delhi. CSIR-NAL is a Science and Knowledge based Research, Development and Consulting Organisation. It is internationally known for its excellence in Scientific Research in Aerospace Engineering.

The Director, CSIR-NAL invites online quotation for procurement of the following item(s) for day to day research work.

Sl. No.	Description of Item(s)	Unit	Quantity
1	Process Utilities Filtration System.	No	1
(Please refer annexure -I for detailed specifications)			

Single / Double Bid Only	Two-Bid System.	Tender Type	Open
Bid Security (EMD) (in INR)	Bid Security Declaration should be enclosed with quotation	Bid submission end date	21-Nov-2022 10.00 Hrs
Performance Security	3%	Bid opening date	22-Nov-2022 11.00 Hrs

Tender Documents may be downloaded from Central Public Procurement Portal <https://www.etenders.gov.in>. Aspiring Bidders' who have not registered in e- procurement can register free of cost before participating through the website <https://www.etenders.gov.in>. Bidders are advised to go through instructions provided at 'Instructions for Online Bid Submission'.

01. Tenderers can access tender documents on the website (for searching in the NIC site <https://www.etenders.gov.in>, kindly go to Tender Search option, select tender type and select 'Council of Scientific and Industrial Research', in organisation tab and select NAL-Bengaluru-CSIR in department type. Thereafter, Click on "Search" button to view all CSIR-NAL, Bengaluru tenders). Select the appropriate tender and fill them with all relevant information and submit the completed tender document online on the website <https://www.etenders.gov.in> as per the schedule given in the next page.
02. a. Global Tender Enquiry: Either the Indian Agent on behalf of the Foreign principal or the Foreign principal can bid directly in a tender but **not** both. However, the offer of the Indian Agent should also accompany the authorisation letter from their principal. To maintain sanctity of tendering system, one Indian Agent **cannot** represent two different Foreign principals in one tender  
b. Open Tender enquiry: Only Local suppliers with prescribed local content as detailed in DIPPT Order No. P-45021/2/2017-PP (BE-II) dated 16<sup>th</sup> Sep, 2020 and subsequent orders issued by Ministry of Finance (GoI) from time to time, are eligible for bidding. Bidders must enclose the certificate declaring the local content of supplies as per our standard form.

पी बी सं. 1779, एचएएल एयरपोर्ट रोड, बेंगलूर- 560 017, भारत,

P B No 1779, HAL Airport Road, Bengaluru - 560 017, INDIA

फोन / Phone : ( का./ Off ) : +91 - 80 - 2508 6097 / 6710, फैक्स / FAX : +91-80-2526 9611



<http://www.nal.res.in>



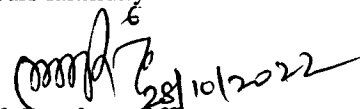
[purchaseccadd@nal.res.in](mailto:purchaseccadd@nal.res.in)

Note: Kindly refer to the first page (NIT) for tender type (i.e. Open Tender Enquiry / Global Tender Enquiry) and submit your bid accordingly.

03. Unsolicited / conditional / unsigned Quotations/Quotations received after the due date and time shall be summarily rejected. The Bidder shall comply the terms and conditions of the tender, failing which, the offer shall be liable for rejection.
04. The bids' failing to comply with the following clauses will be summarily rejected.
  - a. The Bidders' proposing to supply finished products directly/indirectly from vendors' of countries sharing the land border with India should submit a copy of registration done with DPIIT.
  - b. If the products supplied are not from vendors of countries sharing land border with India, the Bidders' have to enclose a declaration to that effect.
05. As per Govt. of India procurement policies,
  - a. The purchaser intends to give purchase preference to local supplies (Preference to Make in India) in case the cost of procurement is up to Rs. 50.00 lakhs.
  - b. The procuring entity intends to give purchase preference to products/goods manufactured by micro, small and medium enterprises.
06. Bidders' are requested to refer to the instructions regarding Procurement Policies for "Make in India", issued by Ministry of Commerce and Industry, Department of Industrial Policy and Promotion dated. 28-May-2018, and 4-Jun-2020 and guidelines as and when issued.
07. Kindly, note CSIR-NAL GST No. **29AAATC2716R1ZB**. And the bidders' are requested to furnish their GST No. in their invoice failing which we will *not* be able to make timely payment.
08. Printed conditions, if any, submitted along with your quotation shall not be binding on us.
09. The prospective bidders' are requested to refer to the Standard Terms and Conditions available on NAL Internet ([www.nal.res.in](http://www.nal.res.in)) under the icon Tender-Purchase before formulating and submitting their bids'.
10. The Director, CSIR- National Aerospace Laboratories, Bengaluru reserves the right to accept any or all the tenders either in part or in full or to split the order without assigning any reasons there for.

Thanking you,

Yours faithfully

  
Stores & Purchase Officer  
For and on behalf of CSIR-NAL

## Specification For The Process Utilities Filtration System

1. **Name of the equipment:** Process Utilities Filtration System
2. **Quantity :** Filter housing with Filter element - 10 nos.
3. **Scope of the vendor:**  
Supply of the filter unit comprising of filter housing and filter element with other auxiliary provisions [matching pipe fittings (SS 304) and isolation valves (SS 304)]. Vendor to check for the completeness of his system to meet the process requirements and guarantee the performance parameter as specified herein. The operational guarantee for the equipment supplied shall be provided by the vendor.
4. **Equipment Duty:**  
The filtration system is used to remove the contaminants in the fluid stream. The unit should have good pressure resistance and corrosion resistance in the specified operating conditions.
5. **Mode of operation:** continuous.
6. **Filtration fluid properties :** The fluid properties are detailed in Table 1.

Table 1. Fluid properties and line size details.

Sl. No.	Filtration	Fluid	Fluid density (kg/m <sup>3</sup> )	Fluid Viscosity (cP) at 25 C.	Fluid flowrate	Pipe line size (SS304) (inch)
01	Liquid	DM water	1000	1	1.0 m <sup>3</sup> /h	1.5" & 1.0"
		Acrylonitrile	810	0.4	50 Kg/h	0.5"
		Dimethyl acetamide	940	0.92	1.2 m <sup>3</sup> /h	1.0 "
02	Gas	Nitrogen	1.126	0.0175	250 Nm <sup>3</sup> /h	2.0"
		Steam	0.5974	0.013	5 kg/h	0.5"

7. **Description of equipment:**  
The filter system consists of a vessel/ housing and the filter element having O-ring type arrangement for ease in filter change and efficient operation. The mode of operation will be continuous for removing the contaminants present in the fluid stream. The filter housing and filter element should be designed and fabricated based on the design condition detailed below. The system should have suitable pressure gauges, drain valve, bypass and vent valve arrangements for ease of operation. The schematic of the filter system with flow rate ratings is shown in Fig.1, Fig. 2, Fig.3, Fig. 4, Fig. 5 and Fig. 6 respectively.
8. **Filter Design detail :**
  - I. **Liquid filtration**
    - a. Configuration : Cylindrical.
    - b. Pressure drop : 1.5 bar max.
    - c. Housing material : SS 316.
    - d. Housing design temperature : 125 °C.
    - e. Housing Design Pressure : 5 kg/cm<sup>2</sup>.
    - f. In/Out connection : Threaded flange end connection.

**II. Gas filtration**

- a. Configuration : Cylindrical.
- b. Pressure drop : 0.1 bar.
- c. Housing material : SS 316.
- d. Housing design temperature : 75 °C.
- e. Housing Design Pressure : 6 kg/cm<sup>2</sup>.
- f. In/Out connection : Threaded flange end connection.

**9. Scope of Supply & Filter arrangement :**

Table 2. Filtration system

Sl. No.	Filtration	Fluid	Filter rating, Absolute (µm) / Element material Type	Pressure drop, ΔP (bar) max	Housing material /size	Quantity (Housing + filter element)	Spare filter element
01	Liquid	DM water	5 / PP	1.5	SS316 / 10 inch	03	02
		DM water	1 / PP (Parallel arrangement – 2 filter)	1.5	SS316 / 10 inch	02	02
		Acrylonitrile	0.5 / SS 316 sintered	1.5	SS316 / 10 inch	01	01
		Dimethylacetamide	0.5 / SS 316 Sintered	1.5	SS316 / 20 inch	01	01
02	Gas	Nitrogen	1 / PP	0.1	SS316 / 10 inch	01	02
		Nitrogen	0.2 / PTFE	0.1	SS316 / 10 inch	01	01
		Steam	0.5 / Sintered	0.1	SS316 / 10 inch	01	01

**Filter Arrangement :**

- i) Demineralized (DM) Water (Flow rate rating : 1000 LPH) filter arrangement :
  - a) 1 micron filter rating.

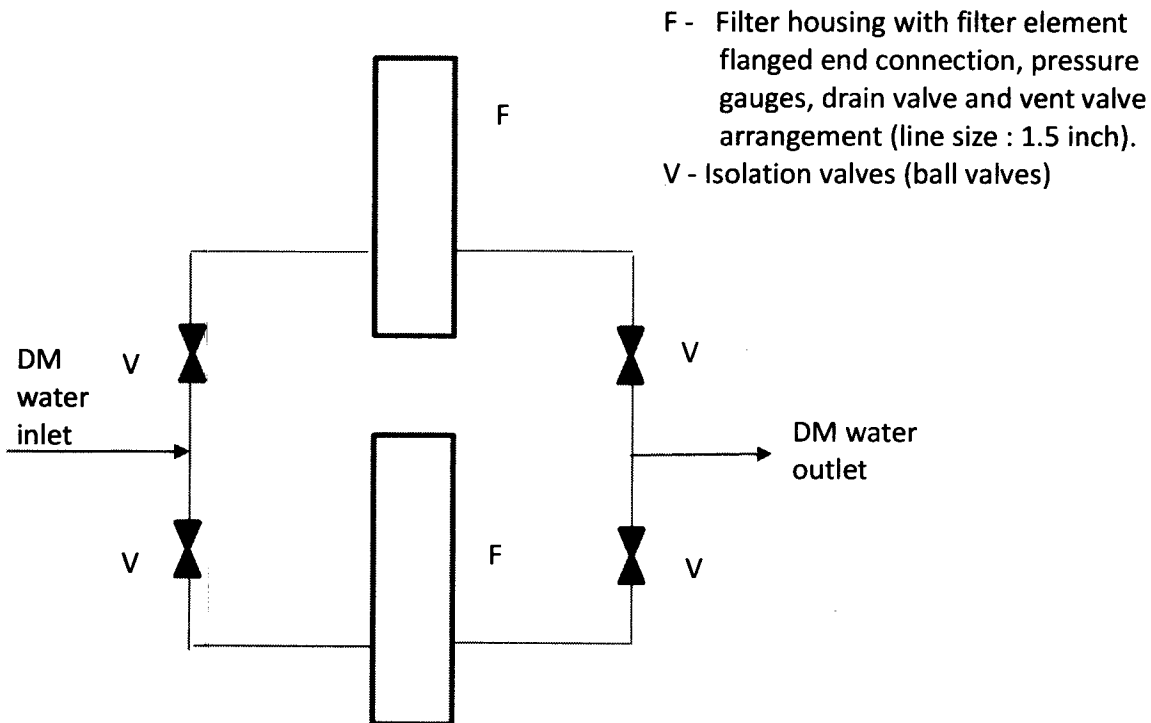


Fig 1. Schematic DM water line filter system (1µm rating- parallel arrangement (1set)).

b) 5 micron filter (Flow rate rating : 1000 LPH) filter arrangement.

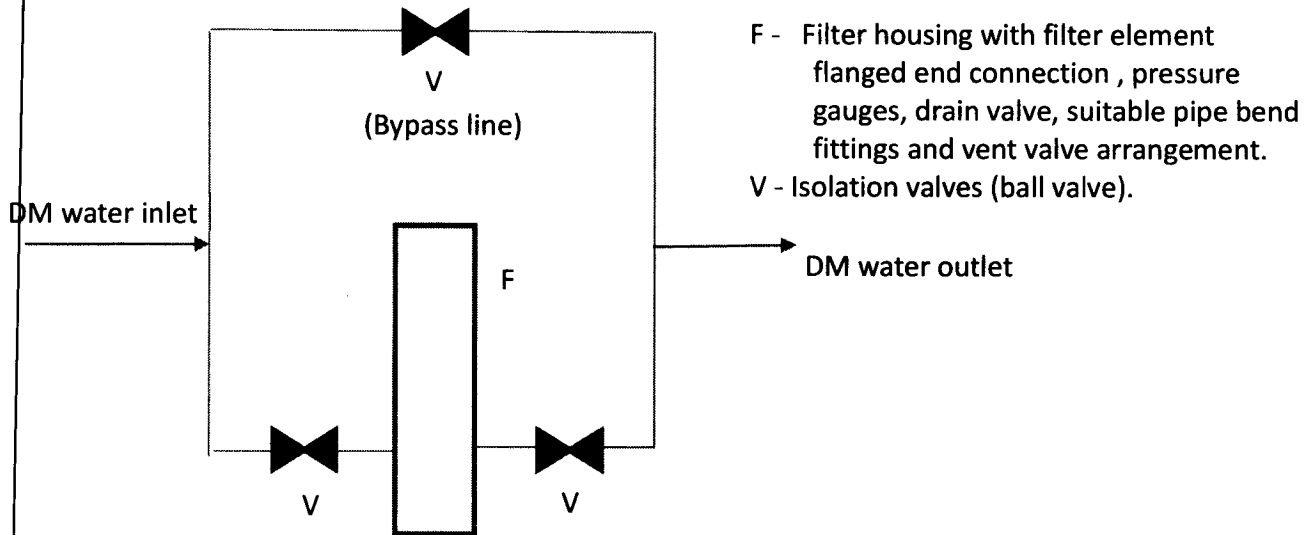


Fig 2. Schematic DM water line filter system (5 µm rating).

ii.) Nitrogen line filter (Flow rate rating : 250 m<sup>3</sup>/h) arrangement :

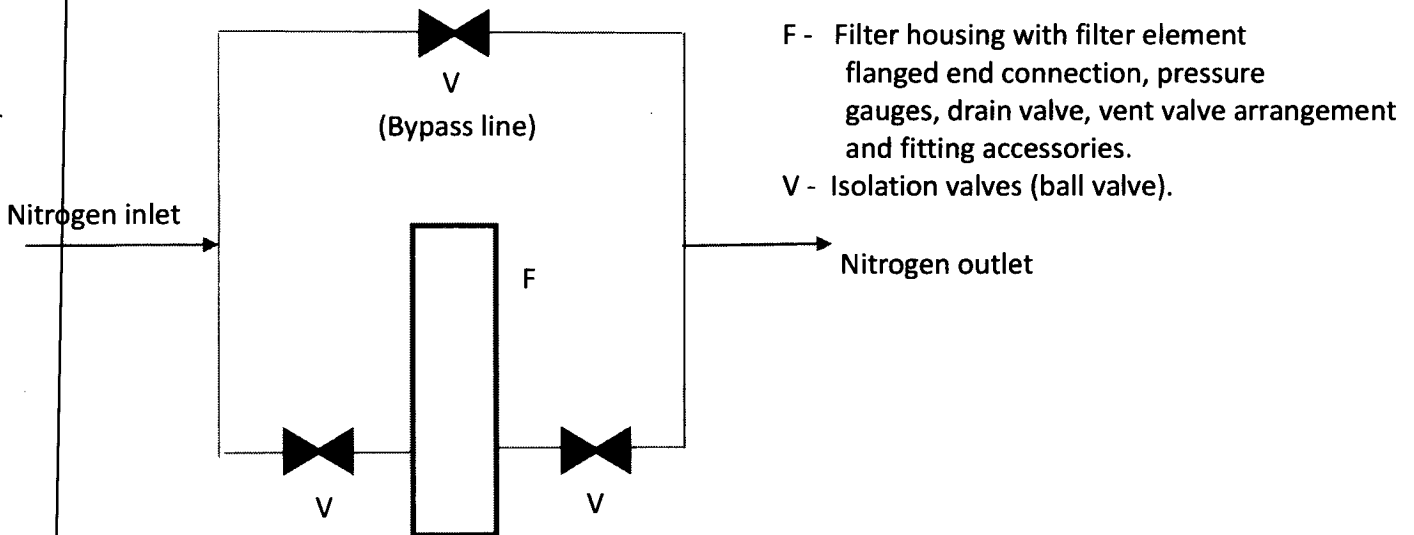


Fig 3. Schematic Nitrogen line filter system.

iii). AN line (Flow rate rating : 50 kg/h) filter arrangement :

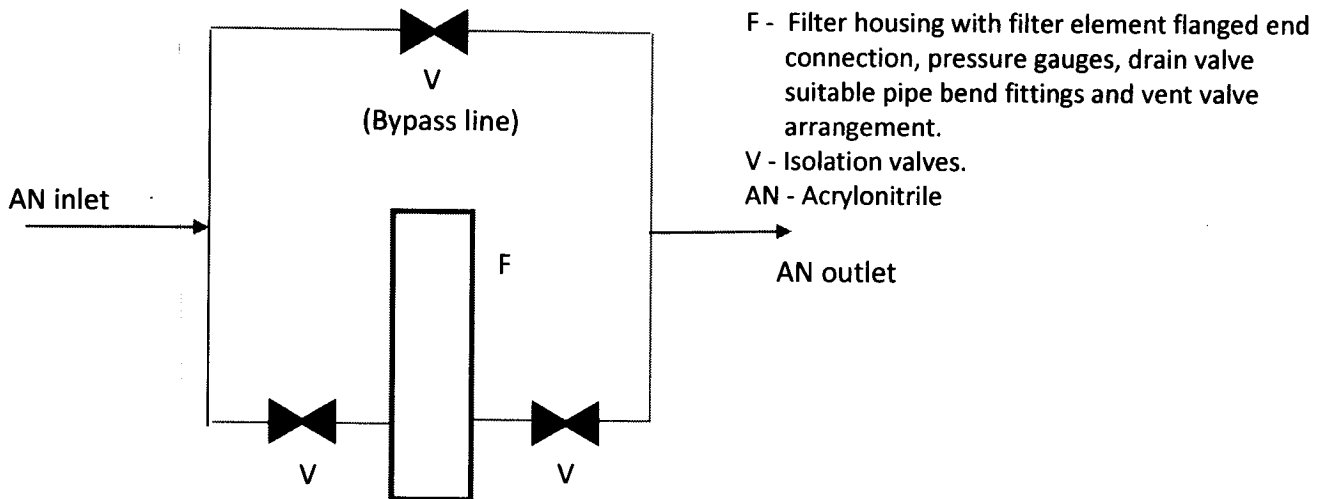


Fig 4. Schematic AN line filter system.

iv) Steam line filter (Flow rate rating : 5 kg/h) arrangement :

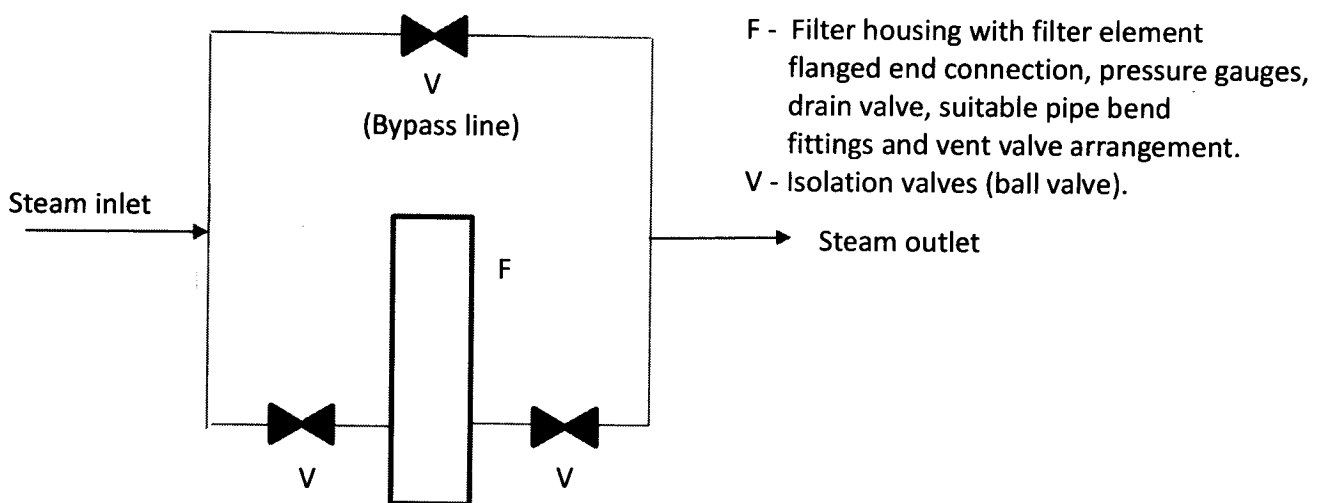


Fig 5. Schematic Steam line filter system

v). DMAC line filter (Flow rate rating : 1200 LPH) arrangement :

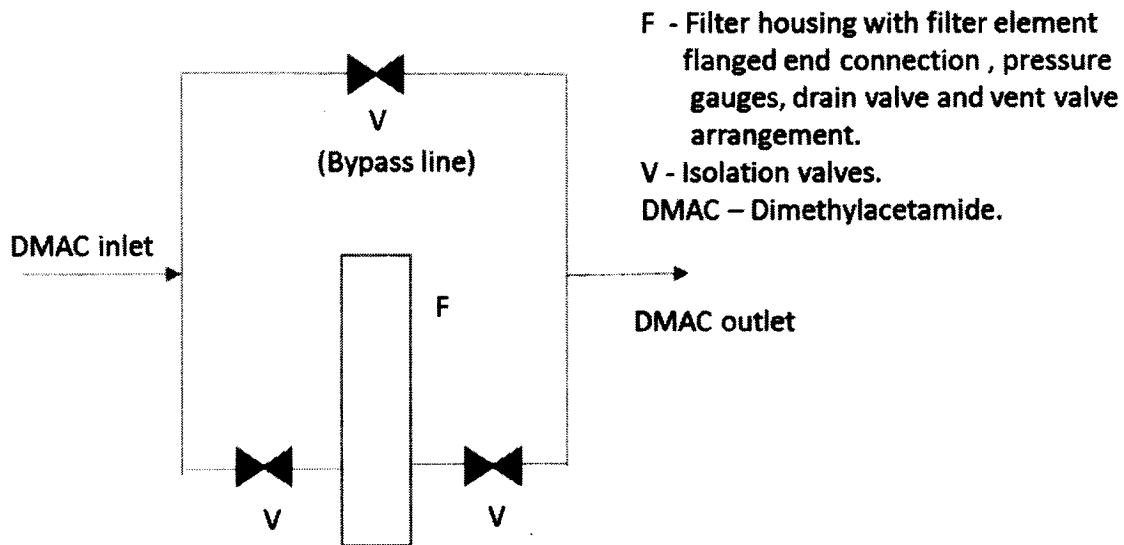


Fig 6. Schematic DMAC line filter system

#### 10. Delivery of item:

The items are to be delivered at CCFP, NAL, Belur Campus.

**Delivery period:** 8 weeks from the date of order.

#### 11. General :

- The supplier has to provide operating manual, containing instructions for operation, maintenance, & safety details for equipment.
- All individual instruments like pressure gauge etc. shall be calibrated by accredited agencies valid for ISO-9000 certification and the calibration certificates to be supplied along with the equipment.
- Repair /service facilities at suitable intervals should be available from the supplier, after the guarantee / warranty period for the entire system on payment basis.

**TERMS & CONDITIONS**

<b>Tender No.</b>		
<b>Sr. No.</b>	<b>Approximate weight of the Consignment</b>	<b>Approximate dimensions of the consignment</b>
1		
2	Indian Customs Tariff No. and HSN No. (ICT & HSN No.)	
3	Country of Origin	
4	Percentage of Local Content (Certificate of Local content should be submitted)	
5	Annual Turnover	
6	Type of Supplier	
7	Mode of Shipment By Air / SEA / Road / e-download	
8	<b>Port of Destination</b>	<b>Final Destination</b>
9	Delivery Term (INCO Term), as the case may be	
10	Delivery Schedule including Supply, Installation, Commissioning, Training & Acceptance	
a) b) c) d)	Delivery of the Item [In weeks / Days / Months] from the date of PO / LC / ILC / Advance [Mention the appropriate term]	
	Installation & Commissioning from the date of Delivery of item [In weeks/Days/Months]	
	Training from the date of Installation & Commissioning of item [In weeks/Days/Months]	
	Acceptance from the date of Training [In weeks/Days/Months]	
11	Installation & Commissioning (if any) Quoted Price inclusive or exclusive	
12	Training (if any) Quoted Price inclusive or exclusive	
13	Payment Term	
14	Currency of Bid/Quotation	
15	Statutory Levies [GST/IGST or any other taxes, duties] % of tax to be mentioned.	
16	Bidder GST No.	
17	Bidder Bank Details along with Cancelled cheque	
18	Insurance Coverage	
19	Warranty	
20	Agree to submit Performance Security as per Tender terms and conditions.	



21	Validity of offer as per Tender document	
22	Order to be placed [Full address, Tel #, Fax #, Email Id, Contact Person]	
23	Any other	
24	Total Price quoted as per BoQ/Price Schedule/List of Deliverables exclusive of tax	
25	Total Price quoted as per BoQ/Price Schedule/List of Deliverables inclusive of tax	
26	If country of Origin is Foreign, Bidders may provide the following details, as per GOI Procurement Policies (DIPP Order No.P-45021/2/2017-PP (BE-II).	
	<b>"Self-Certification that the item offered meets the minimum local content (in terms of percentage) giving details of the location(s) at which the local value addition is made in case the bidder wishes to avail the benefits under the Make in India Policy, if applicable".</b>	
Note:	Unit Price indicating currency FOB (named port of shipment or FCA (named place of delivery)	

Tender No.:

**Certificate of Local Content  
(to be enclosed along with Bid)**

We M/s. \_\_\_\_\_ (Name of Bidder) hereby certify that we meet the minimum

Local content for the Goods and services offered vide our offer/bid No. \_\_\_\_\_ dated

\_\_\_\_\_ as specified below:

- Class-I Local Supplier with local content of 50% and above  
OR
- Class-II Local Supplier with local content of 20% and above but less than 50%  
(Tick appropriate category of Local Supplier)

We are not claiming the services such as transportation, insurance, installation, commissioning, training, after sales service (warranty or AMC/CMC support), consultancy and custom clearance including custom duty as local value addition.

We are aware that the false declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules (Govt of India) for which we or our successors can be debarred for up to two years as per Rule 151 (iii) of the General Finance Rules along with such other actions as may be permissible under law.

Signed : [insert signature of person whose name and capacity are shown]  
In the capacity of [insert legal capacity of person signing the Bid Submission Form]

Name : [insert complete name of person signing the Bid Submission Form]

Duly authorized to sign the bid for and on behalf of: [insert complete name of Bidder]

Dated on \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ [insert date of signing]

**Bid-Securing Declaration Form**

Date: \_\_\_\_\_

Bid No. \_\_\_\_\_

**To (insert complete name and address of the purchaser)**

I/We, The undersigned, declare that:

I/We understand that, according to your conditions, bids must be supported by a Bid Securing Declaration.

I/We accept that I/We may be disqualified from bidding for any contract with you for a period of one year from the date of notification if I am /We are in a breach of any obligation under the bid conditions, because I/We

a)	have withdrawn/modified/amended, impairs or derogates from the tender, my/our Bid during the period of bid validity specified in the form of Bid; or
	Having been notified of the acceptance of our Bid by the purchaser during the period of bid validity
b)	I.fail or reuse to execute the contract, if required, or II.fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders.

I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid.

Signed: (insert signature of person whose name and capacity are shown) in the capacity of (insert legal capacity of person signing the Bid Securing Declaration).

Name: (insert complete name of person signing the Bid Securing Declaration)

Duly authorized to sign the bid for an on behalf of: (insert complete name of Bidder) Dated

on \_\_\_\_\_ day of \_\_\_\_\_ (insert date of signing)

Corporate Seal (where appropriate)

**Note:**

1. In case of a Joint Venture, the Bid Securing Declaration must be in the name of all partners to the Joint Venture that submits the bid)
2. Bid Security declaration must be signed in by the Proprietor/CEO/MD or equivalent level of Officer of the company.