

**F.No : 5- 47/18-19/ST****Date : 29.01.2019**

**NOTICE INVITING e-TENDERS**  
**(NATIONAL COMPETITIVE BIDDING)**

Online bids are invited on single stage two bid systems for the **“Supply and Installation of Freeze Dryer at CIBA, Chennai - 600028.”** with the technical specifications mentioned in the Annexure III.

Tender documents may be downloaded from CIBA web site [www.ciba.res.in](http://www.ciba.res.in) (for reference only) and CPPP site <https://eprocure.gov.in/eprocure/app> as per the schedule as given in CRITICAL DATE SHEET as under.

**CRITICAL DATE SHEET :**

Published Date	29 <sup>th</sup> January 2019 (02.30 PM)
Bid Document Download / Sale Start Date	29 <sup>th</sup> January 2019 (02.30 PM)
Bid Clarification Start Date	29 <sup>th</sup> January 2019 (02.30 PM)
Bid Clarification End Date	18 <sup>th</sup> February 2019 (02.30 PM)
Bid Submission Start Date	29 <sup>th</sup> January 2019 (02.30 PM)
Bid Submission End Date	18 <sup>th</sup> February 2019 (02.30 PM)
Bid Opening Date	19 <sup>th</sup> February 2019 (02.30 PM)

**Installation Site:** Central Institute of Brackishwater Aquaculture  
(Indian Council of Agricultural Research), No.75, Santhome High Road, R.A.Puram, Chennai-600028, Tamil Nadu.  
Phone: +91-044-24618817, 24616948, 24610565.  
E-mail: [stores@ciba.res.in](mailto:stores@ciba.res.in), [storesciba@gmail.com](mailto:storesciba@gmail.com)

Bids shall be submitted online only at CPPP website: <https://eprocure.gov.in/eprocure/app>. Manual bids are strictly not accepted under any circumstances. E-procurement system ensures locking on the scheduled date and time. The system will not accept any bid after the scheduled date and time of submission of bid.

The Tender Inviting Authority has all the rights to retender or cancel the tender at any stage without mentioning the reasons.

Tenderer / Contractor are advised to follow the instructions carefully provided in **Instructions to Bidders (ITB ) and General Condition of Contract (GCC)**, without fail, which are uploaded in our website at [www.ciba.res.in](http://www.ciba.res.in) under "TENDER", before submission of your bid. For clarification please send mail to [stores@ciba.res.in](mailto:stores@ciba.res.in)

Care has been taken to avoid contradiction between stipulation in the ITB, GCC and those in the other sections of the bidding documents. But wherever contradiction arises, if any, stipulations contained in the Schedule of Requirements shall prevail.

**Tenderer / Contractor are also advised to follow the instructions provided in the 'Instructions to the Contractors/Tenderer for the e-submission of the bids online through the Central Public Procurement Portal for e-Procurement at '<https://eprocure.gov.in/eprocure/app>'**

Not more than one tender shall be submitted by one contractor or contractors having business relationship. Under no circumstance will father and his son(s) or other close relations who have business relationship with one another (i.e. when one or more partner(s)/director(s) are common) be allowed to tender for the same contract as separate competitors. A breach of this condition will render the tenders of both parties liable to rejection.

Tenderer who has downloaded the tender from the CIBA website [www.ciba.res.in](http://www.ciba.res.in) and Central Public Procurement Portal (CPPP) website <https://eprocure.gov.in/eprocure/app> , <https://eprocure.gov.in/epublish/app> **shall not tamper/modify the tender form including downloaded price bid template in any manner**. In case if the same is found to be tampered / modified in any manner, tender will be completely rejected and EMD would be forfeited and tenderer is liable to be banned from doing business with CIBA.

Before the deadline for submission of the online bid, CIBA, Chennai reserves the right to modify the tender document terms and conditions. Such amendment / modification will be notified on website against said tender ID. Intending tenderers are advised to visit again CIBA website [www.ciba.res.gov.in](http://www.ciba.res.gov.in) and CPPP website <https://eprocure.gov.in/eprocure/app> at least 3 days prior to closing date of submission of tender for any corrigendum / addendum/ amendment.

**EMD Payment:**

Bid Security	<b>Rs. 45000/-</b>	<b>For Registered Vendors of ICAR - CIBA</b>
EMD	<b>Rs. 60000/-</b>	<b>For non-Registered vendors of ICAR - CIBA</b>

Earnest Money Deposit is to be deposited by **Demand Draft** in favour of **ICAR Unit, CIBA and payable at Chennai** obtained from any Nationalized/scheduled Bank valid for three months. Bidders are required to submit the details of EMD payment at the time of Bid Preparation.

All applicable bank charges shall be borne by the applicant and he shall not have any claim what so ever on this account on Government.

The **Hard Copy of original instruments** in respect of earnest money deposit, and credit facility certificate must be delivered to **The Director, Central Institute of Brackishwater Aquaculture (ICAR), No.75, Santhome High Road, R.A. Puram, Chennai – 600 028 on or before bid opening date/time as mentioned in critical date sheet.** Tenderer shall likely to be liable for legal action for non-submission of original payment instrument like DD, etc., against the submitted bid.

Bids will be opened as per date/time as mentioned in the **Tender Critical Date Sheet.**

**Performance Security Deposit:**

Performance Security Deposit (10% of the equipment value) will be collected from the supplier before releasing supply/purchase order. The security deposit would be returned only after expiry of the warranty period and sixty days. In the event of selected firm refusing or failing to supply the equipment, the security deposit would be forfeited. And it is also informed that the **Performance Security deposit has to be claimed within three years after completion of warranty period, otherwise it would be forfeited.**

**Prices:**

The price should be quoted in net per unit (after breakup) and must include all packing and delivery charges to various Departments/Centers/Institutions. The offer /bid should be exclusive of taxes and duties, which will be paid by the purchaser as applicable. However the percentage of tax & duties should be clearly indicated. The price should be quoted without custom duty and excise duty, since CIBA, Chennai is exempted from payment of excise duty, and the custom duty, which will be paid at concessional rate against duty exemption certificates.

**In case of import supply, the price should be quoted in FOB. Computers, Laptops, stabilizers and other local supplies should be quoted separately in INR. In case of import supply, the supply order will be issued only after obtaining the Proforma Invoice from the Principals.**

**Taxes:**

CIBA, Chennai is public funded research organisation under the administrative control of ICAR, Ministry of Agriculture and Farmers welfare, Government of India and we are eligible for concessional Integrated Tax as per notification No.45/2017 Central Tax-(Rate), dated:14-11-2017/ Notification No.47/2017 Integrated Tax – (Rate), dated:14-11-2017 on submission of concessional certificate.. Hence tax should be charged at concessional rates as applicable to educational and research institutions run without profit motives, for which necessary certificate will be issued on demand at the time of retirement of documents/payment, wherever applicable.

**Agency Commission:**

Agency commission, if any, will be paid to the Indian agents in Rupees on receipt of the equipment and after satisfactory installation. Agency commission will not be paid in foreign currency under any circumstances. The details should be explicitly shown in Tender even in the case of 'Nil' commission. The tenderer should indicate the percentage of agency commission to be paid to the Indian agent. The foreign principal should indicate about the percentage of payment and it should be included in the originally quoted basic price, if any.

**Risk Purchase Clause:**

In the event of failure of supply of the item/equipment within the stipulated delivery schedule, the purchaser has all the right to purchase the item/equipment from other sources on the total risk of the supplier under risk purchase clause.

**Submission of Tender**

1. The tender shall be submitted online in two parts, viz., technical and price bid.
2. All the pages of bid being submitted must be signed and sequentially numbered by the bidder irrespective of nature of content of the documents before uploading.
3. The bids submitted through Post/Telegram/Fax/email shall not be considered and will be summarily rejected.
4. No correspondence will be entertained in this matter.

### **Technical Bid:**

The following documents are to be furnished by the Bidder / Supplier / Contractor along with the Technical Bid as per the tender document in the following order, failing which the competent authority reserves the right to reject the bid summarily at the bid opening stage itself without entertaining for further process:

- i) Signed and scanned copy of :
1. Tender Acceptance Letter (Annexure-I) (To be given on Company Letter Head).
  2. Price Bid Undertaking (Annexure-II) (To be given on Company Letter Head).
  3. Technical Compliance Sheet(Annexure-IV)
  4. DD pertaining to Earnest Money Deposit.
  5. Valid MSME/NSIC Certificate if claiming EMD exemption.
  6. PAN card.
  7. GST Certificate.
  8. Valid Registration Certificate.
  9. Affidavit of partnership / proprietary firm.
  10. Manufacturer / Authorised Dealer/ Authorisation letter from the Manufacturer
  11. List of the equipment supplied and its end-users.
  12. Catalogue/ Original pamphlets/ references clearly mentioning the make and model of all systems, sub systems and additional items with the complete technical details in the form of Brochures and write-ups.
  13. **The catalogue should substantiate the technical specification of the equipment/item quoted by the supplier so as to enable the indenter/committee to evaluate the technical bids without any ambiguity.**
  14. Last three years Income-tax returns.
  15. Audited Balance sheet of last three years.
  16. Check list mentioning all the above documents.
- ii) **The supplier will be required to install the equipment and software at the specified installation site vis-à-vis the tender specifications.**
- iii) Training will also be required to be given to the users on the operation based on the required application at the time of installation.
- iv) **Don't mention about the Commercial / financial/ Price details of the tender anywhere in the technical bid,** it has to be specifically mentioned in the BoQ, which is provided with this tender.

**Price Bid:**

- (a) Price bid undertaking, which is provided in the Annexure – II, has to be duly signed and uploaded by the tenderer along with the technical bid in the order mentioned above.
- (b) Schedule of the model price bid in the form of BOQ\_XXXX.xls in given below for reference.
- (c) There should not be any deviations from the Price bid template that has been uploaded with this e-tender; otherwise the bid will be summarily rejected.

**Schedule of price bid in the form of BOQ XXXX .xls:**

The below mentioned Financial Proposal/Commercial/Price bid format is a model format. Similar BoQ is provided along with this tender document at <https://eprocure.gov.in/eprocure/app>. Bidders are advised to download the BoQ\_XXXX.xls as it is and quote their offer/rates in the permitted column and upload the same in the Price bid. **Bidder shall not tamper/modify downloaded price bid template in any manner.** In case if the same is found to be tempered/modified in any manner, **tender will be completely rejected and EMD would be forfeited** and tenderer is liable to be banned from doing business with CIBA, Chennai.

1	Validate		Print		Help		<b>Item Rate BoQ</b>		
4	Tender Inviting Authority:								
5	Name of Work:								
6	Contract No:								
8	Name of the Bidder/ Bidding Firm / Company :								
9	<b>PRICE SCHEDULE</b> <small>(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only )</small>								
10	<b>NUMBER #</b>	<b>TEXT #</b>	<b>NUMBER #</b>	<b>TEXT #</b>	<b>NUMBER #</b>	<b>NUMBER #</b>	<b>NUMBER #</b>	<b>TEXT #</b>	
11	Sl. No.	Item Description	Quantity	Units	Estimated Rate in Rs. P	BASIC RATE In Figures To be entered by the Bidder in Rs. P	TOTAL AMOUNT Without Taxes in Rs. P	TOTAL AMOUNT In Words	
12	1	2	4	5	6	13	53	55	
28	1	Item 1							
29	Total in Figures							0.00	INR Zero Only
30	Quoted Rate in Words			<b>INR Zero Only</b>					
32									

- 1. The rates shall be quoted in Indian Rupee or any other currencies as per the BoQ.
- 2. The rates has to filled at the particular cells in the BoQ\_XXXX.xls such as Basic Rate, GST in %, Freight Charges, levies, etc. and any revision in the statutory taxes, fees, etc will be the responsibility of the Bidder.

3. The payment will be made to the Consultant/Bidder/Supplier/Contractor at any Bank Account maintained in India by way of ECS/RTGS after deducting the TDS as applicable.
4. The quoted rates shall remain firm throughout the tenure of the contract and no revision is permissible for any reason.

**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 II or 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. 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.

**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 openers public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.

8. The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
9. Upon the successful and timely submission of bids (ie 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.
10. 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.

**The Director,  
Central Institute of  
Brakishwater Aquaculture,  
No.75.Santhome High Road,  
R.A.Puram,  
Chennai – 600 028.**

**ANNEXURE - I**  
**TENDER ACCEPTANCE LETTER**  
**(To be given on Company Letter Head)**

To,  
The Director,  
Central Institute of Brakishwater Aquaculture,  
No.75. Santhome High Road,  
R.A.Puram,  
Chennai – 600 028.

Subject : Acceptance of Terms & Conditions of e-Tender – Reg  
CIBA Ref.No. : F.No:5-47/18-19/ST.

Tender ID : \_\_\_\_\_

Name of Tender / Work: Supply and Installation of Freeze Dryer at CIBA,  
Chennai - 600028..

Make & Model No : \_\_\_\_\_

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Dear Sir,

1. I/ We have downloaded the tender document(s) for the above mentioned  
'Tender/Work' from the web site(s) namely:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

as per your advertisement, given in the above mentioned website(s).

2. I / We hereby certify that I / we have read the entire terms and conditions of the tender documents from **Page No. 1 to 18** (including the Technical Bid, Price Bid, documents like annexure(s), schedule(s), etc.), which form part of the contract agreement and I / we shall abide hereby by the terms / conditions / clauses contained therein.

3. The corrigendum(s) issued from time to time by your department/ organization too has also been taken into consideration, while submitting this acceptance letter.

4. I / We hereby unconditionally accept the tender conditions of above mentioned tender document(s) / corrigendum(s) in its totality / entirety and also unconditionally accept that CIBA, Chennai has the right to accept the whole or any part of the Tender or portion of the quantity offered or reject it in full without assigning any reason.

5. I / We accept that being L1 alone will not confer the award of the contract by the CIBA. The Award of the contract will be communicated by CIBA, Chennai through Post/ Fax / electronic form of communication, which is final and I / we shall abide by the terms / conditions / clauses contained therein.

6. I / We do hereby declare that our Firm has not been blacklisted/ debarred by any Govt. Department/Public sector undertaking.

7. I / We certify that all information furnished by the our Firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department/ organization shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the full said earnest money deposit absolutely.

Yours Faithfully,

(Signature of the Bidder, with Official Seal)

**ANNEXURE - II**  
**PRICE BID UNDERTAKING**

(To be given on Company Letter Head)

From: (Full name and address of the Bidder)

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To,  
The Director,  
Central Institute of Brakishwater Aquaculture,  
75, Santhome High Road,  
R.A. Puram,  
Chennai – 600 028

Dear Sir/Madam,

**Sub : Price Bid Undertaking – Reg**

**CIBA Ref.No. : F.No:5-47/18-19/ST.**

I submit the Price Bid for the “**Supply and Installation of Freeze  
Dryer.(Make \_\_\_\_\_ Model No: \_\_\_\_\_ )  
at CIBA, Chennai - 600028.**” as envisaged in the Bid document.

2. I have thoroughly examined and understood all the terms and conditions as contained in the Bid document, and agree to abide by them.

3. I offer to supply at the rates as indicated in the price Bid of this tender.

Place :

Yours Faithfully,

Date :

Signature of authorized Representative

## ANNEXURE – III

### Technical specifications for Freeze Dryer

1. A compact **table-top freeze dryer for aqueous solutions**
2. Ice Condenser temperature should be **minimum –55 °C at ambient room temperature of 25 °C.**
3. Capacity of ice condenser should be of **minimum 4 kg.**
4. Drying Performance should be **4kg or more in 24 hours.**
5. There should be a **display unit with touch screen showing clear layout of process data** like ice condenser temperature, process time, section time and vacuum.
6. **Password protection facility** should be available for the instrument.
7. There should be a **system leakage and performance test** facility in the instrument.
8. There should be a **defrost facility.**
9. Should have **pirani gauge vacuum sensor** to monitor the vacuum during process.
10. The compressor should be **minimum 0.5 KW or 0.5 HP.**
11. Condenser coils and condenser chamber should be made of **SS 316.**
12. Condenser coils should be in direct touch with the sublimed vapours to serve as a trap.
13. The **capacity of the vacuum pump** should be **minimum 50 litres/min.**
14. There should be **minimum 12 connections with individual control rubber valves.**
15. There should be a facility to **dry 12 or more round bottom flasks at a time.**
16. Necessary **filters for round bottom flask** to prevent loss of product during drying.
17. There should be **minimum 3 shelves** with minimum **diameter of 265 mm** inside the acrylic chamber.
18. There should be a facility to **control vacuum using electromagnetic valve** to reduce drying process time.
19. There should be a facility to find out the **product temperature while in process** by using the vapour pressure reading.

20. Automatic or manual sequence of freeze drying process.
21. The instrument should meet the requirements of **CE certification**.
22. Should have at least **Two years** comprehensive onsite extended warranty and **provide details regarding annual maintenance charges/facility for 3 years**.
23. The firms should **quote only one model** as per specifications/near to specifications
24. Should provide **detailed end users list** of the same product in Chennai and other nearby areas
25. Should provide **complete illustrated catalogues** with detailed technical specification.

## ANNEXURE – IV

### Technical compliance sheet

**The bid stands duly rejected if the supplier doesn't produce the signed and scanned copy of the duly filled technical compliance sheet along with the Technical Bid.**

**Reasons has to be mentioned** by the supplier against each item. The make, model, capacity, quantity, measurements etc. of that particular item/component has to be clearly mentioned for being technically compliant and non-compliant.

**The reasons should substantiate the technical specification of the equipment/item quoted by the supplier so as to enable the indentor/committee to evaluate the technical bids without any ambiguity.**

<b>Sl. No</b>	<b>Particulars</b>	<b>Complied Yes/No</b>	<b>Reasons for being technically compliant / non-compliant</b>
1.	Compact <b>table-top freeze dryer for aqueous solutions</b>		
2.	Ice Condenser temperature should be <b>minimum –55 °C at ambient room temperature of 25 °C.</b>		
3.	Capacity of ice condenser should be of <b>minimum 4 kg.</b>		
4.	Drying Performance should be <b>4kg or more in 24 hours.</b>		
5.	There should be a <b>display unit with touch screen showing clear layout of process data</b> like ice condenser temperature, process time, section time and vacuum.		
6.	<b>Password protection facility</b> should be available for the instrument.		



7.	There should be a <b>system leakage and performance test</b> facility in the instrument.		
8.	There should be a <b>defrost facility</b> .		
9.	Should have <b>pirani gauge vacuum sensor</b> to monitor the vacuum during process.		
10.	The compressor should be <b>minimum 0.5 KW or 0.5 HP</b> .		
11.	Condenser coils & condenser chamber should be made of <b>SS 316</b> .		
12.	Condenser coils should be in direct touch with the sublimed vapours to server as a trap.		
13.	The <b>capacity of the vacuum pump</b> should be <b>minimum 50 litres/min</b> .		
14.	There should be <b>minimum 12 connections with individual control rubber valves</b> .		
15.	There should be a facility to <b>dry 12 or more round bottom flasks at a time</b> .		
16.	Necessary <b>filters for round bottom flask</b> to prevent loss of product during drying.		
17.	There should be <b>minimum 3 shelves</b> with minimum <b>diameter of 265 mm</b> inside the acrylic chamber.		
18.	There should be a facility to <b>control vacuum using electromagnetic valve</b> to reduce drying process time.		

19.	There should be a facility to find out the <b>product temperature</b> while in <b>process</b> by using the vapour pressure reading.		
20.	There should be Automatic or manual sequence of freeze drying process.		
21.	The instrument should meet the requirements of <b>CE certification</b> .		
22.	Should have atleast <b>two years</b> comprehensive onsite extended warranty and <b>provide details regarding annual maintenance charges/facility for 3 years</b>		
23.	Should <b>quote only one model</b> as per specifications/near to specifications		
24.	<b>Detailed end users list</b> of the same product in Chennai and other nearby areas		
25.	<b>Complete illustrated catalogues</b> with detailed technical specification.		

केन्द्रीय खारा जलजीव पालन अनुसंधान संस्थान (भारतीय कृषि अनुसंधान परिषद)  
#75, संथोम हाई रोड, राजा अण्णामलैपुरम, चेन्नई - 600028, तमिलनाडु, भारत

Phone: EPBX: +91 44 24618817, 24616948, 24610565

Fax: +91 44 24610311

Email: director.ciba@icar.gov.in, director@ciba.res.in

