



NATIONAL SILKWORM SEED ORGANIZATION
CENTRAL SILK BOARD
MINISTRY OF TEXTILES, (GOVT. OF INDIA)

**TENDER DOCUMENT FOR AWARDING ANNUAL MAINTENANCE
CONTRACT FOR 92 COLD ROOMS / INCUBATION CHAMBERS
(ALL INDIA)**

**IV FLOOR, CSB COMPLEX,
B.T.M. LAYOUT, MADIVALA
BANGALORE – 560068**



NATIONAL SILKWORM SEED ORGANIZATION

CENTRAL SILK BOARD

MINISTRY OF TEXTILES, (GOVT. OF INDIA)

Contents of Tender Document

Tender for awarding Annual Maintenance Contract

for 92 Cold Rooms / Incubation Chambers

(ALL INDIA).

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केरेबो संकीर्ण, चौथा तल, बीले आउट .एम.टी.,
होसूर रोड, मडिवाला, बेंगलूर - 560 068

☎दूरभाष : 26282415 फैक्स Fax: 080- 26680387



NATIONAL SILKWORM SEED ORGANIZATION

Central Silk Board: Ministry of Textiles, Govt.of India
CSB Complex, IV Floor, B.T.M. Layout,
Hosur Road, Madivala, Bangalore – 560 068.

Email: nssoban.csb@nic.in

No.CSB/NSSO/CSP/AMC/SOUTH/21-22/

Date: 08.07.2022

To:

Sir

Sub: Inviting sealed quotations for entering AMC for 92 All India Cold rooms / Incubation Chambers - reg.

The National Silkworm Seed Organization invites sealed bids (two bid system) from the reputed firms who are in the field of Air-Conditioning & Refrigeration for awarding Comprehensive Annual Maintenance Contract for trouble free functioning of all 92 [44 Cold Rooms, 33 Moth Preservation Rooms & 15 Incubation Chamber] cold rooms situated in all over India.

The Technical bid is to be accompanied with Earnest Money Deposit (EMD) for an amount of ₹.15,000/- in the form of Demand Draft drawn in favour of Director, NSSO, CSB, Bangalore. Further, the sealed bid shall be superscribed as "Quotation for awarding AMC for 92 Cold Rooms / Incubation Chamber (All India)" and should reach this Office on or before 24th August 2022 at 03:00 PM .

The sealed bids shall be opened on the same day i.e. **24th August 2022 at 03:30 PM** in the presence of representatives of the Firms, who may wish to participate in the opening of the quotations at the office of the NSSO, CSB complex, IV Floor, B.T.M Layout, Madiwala, Bangalore.

The interested parties may visit the concerned grainage's / units to know more about the Cold Storage and quote their lowest rate and submit to this Office before stipulated date & time.

Tender document may be obtained on cost from the above stated address during working days i.e., from Monday to Friday (Between 09:30AM and 06:00PM) by making **payment of an amount of ₹.1,000/= (Rupees one thousand only) by way of demand draft / e-transfer in favour of the Director, NSSO, Bangalore.**

Director, NSSO reserves the right to reject any or all bids without as signing any reasons whatsoever.

Yours faithfully,

Sd/-
DIRECTOR

INTRODUCTION

National Silkworm Seed Organization functioning under Central Silk Board, Ministry of Textiles, Govt. of India, is producing high quality silkworm seeds at various Silkworm Seed Production Centers (also known as Grainages) located at different States of the Country and distributing the same to the farmers for producing high quality cocoons for development of Sericulture Industry. All the Grainages in the Southern Region have got ISO 9001: 2015 Certification. To produce and supply high quality silkworm seeds, these Silkworm Seed Production Centers are equipped with various machineries, equipments, Walk-in-Cold Rooms, Diesel Generators etc.

These Walk-in-Cold Rooms are essentially provided in the Grainages for preservation of live silkworm seeds & moths. As live silkworm seeds & moths are to be preserved systematically as per scientifically designed preservation schedules, the room temperature and relative humidity should be maintained accurately as per the requirements throughout the year. The party awarded with the Annual Maintenance Contract of Cold Rooms shall maintain the Walk-in-Cold Rooms & Incubation Chambers with utmost accuracy and care without any break downs during the period of the Contract. Time is the essence of AMC.

These Walk-in-Cold Rooms of 25 years old are to be maintained systematically by reputed firms. Now, NSSO, Central Silk Board intends to award the Annual Maintenance Contract to one of the reputed firms experienced in the field.

NATIONAL SILKWORM SEED ORGANIZATION

CENTRAL SILK BOARD

BANGALORE – 560 068

PROCEDURE FOR SUBMISSION

The process of tender shall involve submission of bids in TWO parts namely Technical bid and Financial bid.

Technical bid:

The sealed technical bid enclosing the following should be submitted :-

- A demand draft towards EMD.
- Copies of certificate for establishing eligibility / qualification criteria
- Copy of PAN card and of Income Tax Returns for the previous 3 years.
- A copy of the GST registration certificate.
- A self attested certificate declaring that the AMC Company is not a defaulter in any of the previous transaction with the board / other govt. departments, not black listed / debarred by any Govt. Department and not executed similar nature of AMC work through another contractor as per format.
- The Technical bid not in compliance with the above will be liable for rejection.

Financial Bid:

The Financial bid shall be submitted in the price schedule format

- The **Technical** and **Financial Bids** should be sealed by the bidder in separate covers appropriately super-scribing as "Technical bid" and "Financial bid" as the case may be. The sealed covers containing technical bid and Financial bid are to be put in a bigger cover which should also be sealed and duly super-scribed on the cover as "**Tender for Annual Maintenance Contract for 92 Cold Rooms / Incubation Chambers (All India)**".

TECHNICAL BID

Format of Technical Bid of the tender for Annual Maintenance Contract for 92 Cold rooms/Incubation Chambers.

1	Name of the Tenderer (in Block letters), his/her full postal address, phone / fax and mobile No.	
2	Whether it is Registered Company or partnership company or proprietorship company.	
3	If Registered Company, copy of the Registered Certificate should be enclosed. In case of partnership concern, copy of the partnership deed should be enclosed	
4	Certificate to establish satisfactory completion of at least FIVE years experience in AMC Services with Central / State Government /Autonomous Govt. Bodies / Public Sector Undertakings/ Private sector.	
5	EMD enclosed. If yes, DD No., and Date.	
6	Copies of PAN & Income Tax Return For previous 3 Years.	
7	Brief profile of company (year of establishment/No. of service personnel (attach separate sheet)	
	a) Year of establishment	
	b) No. of service personnel working and their qualification / experience.	
8	Has your company defaulted/been blacklisted by any Govt. agency in the past?	Yes/No
9	Any other information.	

Contd... ..

DECLARATION

I/We hereby declare that the information furnished in this statement is true and correct to the best of my knowledge and I/we am/are aware that in case of any information is found to be incorrect at a later date my/our company will be liable for disqualification from the tender.

Place:

(Signature)

Date:

Name & Designation with Company seal

FINANCIAL BID

Format of Financial Bid of the Tender for Annual Maintenance Contract for 92 Cold Rooms/Incubation Chambers (All India) for a period of 2 years

Sl. No.	Particulars	Rate for 1 Cold room for 1 year of AMC		Total Rate for 1 cold room for 1 year of AMC inclusive of GST	Total Rate for 92 cold rooms for 1 year of AMC inclusive of GST	Total Rate for 92 cold rooms for 2 years of AMC inclusive of GST
		Rate for 1 Cold room for 1 year of AMC	GST			
1	Comprehensive Annual Maintenance Contract for 92 Cold Rooms / Incubation Chambers (All India) as per terms & Conditions mentioned in the tender document.					

Total Rate for 92 cold rooms for 2 years of AMC inclusive of GST =

In Rupees & Words (.....)

Note:

In case of discrepancy between unit price and total price, the unit price shall prevail.

The rate quoted shall be on Comprehensive basis which inclusive of all parts as indicated in Commercial terms (Sl. No. 8) and only basic rates shall be quoted.

Cont.7.....

DECLARATION

I/We hereby declare that the information furnished in this statement is true and correct to the best of my knowledge and I/we am/are aware that in case of any information is found to be incorrect at a later date my/our company will be liable for disqualification from the tender.

Place:

(Signature)

Date:

Name & Designation with Company seal

NATIONAL SILKWORM SEED ORGANISATION

CENTRAL SILK BOARD

BANGALORE – 560068

TERMS & CONDITIONS

TECHNICAL

- 1) Locations showing the SSPC's (Grainages) provided with Egg preservation, Moth Preservation Cold Rooms and Incubation Chambers in All over India is enclosed in Annexure -1.
- 2) Diagrams showing the size of the Walk-in-Cold Rooms for preservation of Silkworm Seeds (known as Egg Preservation Cold Rooms built with an ante room) and preservation of Silkworm Moths (known as Moth Preservation Cold Rooms (without ante-room) are enclosed in Annexure-2(a) & 2(b) respectively.
- 3) The technical specifications viz., data sheets pertaining to all the Cold Rooms – (a) General information; (b) Compressors; (c) Evaporators; (d) Air-cooled Condensers; (e) Refrigeration Components and (f) Electrical load details are furnished in Annexure – 3, 4, 5,6,7 & 8.
- 4) The firm shall furnish the number of technical personnel available, their qualification and experience in the maintenance of related equipment over a period of 3 years.
- 5) All the Cold Rooms are provided with stand by units. The firms awarded with the AMC are required to maintain functioning of stand by units. It is also informed that if one of the Compressors gets burnt / goes defective, the same shall be repaired and re-installed in the system, within 15 days time. The Firms will not be permitted to pull on the AMC period just by maintaining only one Compressor and also stating that the functioning of the Cold Room has not been hampered due to defect in one of the Compressors.
- 6) The Firms which submit the bids shall render at least minimum four quarterly AMC services during the one-year period of the Contract, irrespective of its proper functioning or otherwise.
- 7) Apart from 4 quarterly AMC services mentioned in point No.6 above, the Firms shall attend to all break down/repairs of the Cold Rooms/Incubation chambers etc. as and when intimated by the Incharge Officer of the unit.
- 8) During the Quarterly checkup of the Cold Rooms, the technician of the Firm shall carry out the following routine services for smooth functioning of the Cold Storage Plant, Mysuru consisting of Cold Rooms/Incubation Chambers etc.
 - a) Checking of the incoming voltage/output voltage, current drawn on individual phases at the time of running of the Cold Rooms/Incubation chambers etc.
 - b) Checking of the working pressures in the system;
 - c) Checking of the room temperatures in all the Cold Rooms as well as Relative Humidity in the Egg Preservation Cold Room;

- d) Cleaning of the outdoor unit, including air cooled condensers coil, fins, fans, cabinets, electrical circuits etc.,
 - e) Cleaning of Evaporator coils, fins, fans, motors, etc.,
 - f) Checking of all safety cut-outs, refrigerant controls etc., for proper functioning;
 - g) Checking and arresting of any abnormal sound/noise in the system;
 - h) Leak testing of the entire system and arresting the leaks, if any, found in the system;
 - i) Attending to any other points/defects that may be pointed out/notified by the Incharge Officer of the unit; and
 - j) After attending the services, leaving the site in neat & clean condition.
- 9] Whenever the technicians visit the site for attending to the repairs or rendering routine AMC services, he shall visit the site in the morning at least 10:00 A.M. and spend a minimum period of 3-4 hours by carrying out all the repairs / services and also to observe the performance of the Cold Rooms. After attending to the services / repairs, he shall call either the Incharge Officer or his authorized staff and show the Cold Rooms in good working condition. He shall also submit necessary service reports for all cold rooms separately for the satisfactory AMC services rendered by him. He shall inform his visit to the Unit-In-Charge Officer well in advance.

NATIONAL SILKWORM SEED ORGANISATION

CENTRAL SILK BOARD

BANGALORE – 560068

TERMS & CONDITIONS

COMMERCIAL

1. The Firms which submit the bids shall have at least a minimum of period of 5 years experience in the Dx Type Refrigeration Cold Storage Plants & should have rendered minimum 5 years of Annual Maintenance Contract services for the Dx Type Refrigeration Cold Storage Plants and in order to establish veracity the firm shall attach the Customer satisfactory completion report along with the technical bid.
2. The Firms shall enclose necessary proof, i.e. either work order copies and Credential Certificates from the concerned customers / Departments / Company for having rendered or undertaken 5 years AMC services of Cold Storages of similar type or much bigger magnitude. The Firms shall also enclose copies of Annual Turnover of the firms. I.T. returns etc., along with the bid.
3. The bidders are advised to accept and sign each page of the tender document with stamp / seal.
4. The Firms shall submit the Annual Maintenance Contract charges of the Cold Rooms including Ante room. At the time of submission of bids itself, the rates for two years Annual Maintenance Contract of the Cold Rooms must be submitted. The Total AMC period will be for two years. On no account, the quotes rates will be enhanced during the two years period of the contract.
5. The Director reserves rights to award or cancel Annual Maintenance Contract.
6. The successful firm who may be awarded with the Annual Maintenance Contract shall furnish Contract Agreement containing terms and conditions on non-judicial Stamp Paper of value of Rs.200/- and 25% of the total quoted Contract Value in the form of Bank Guarantee towards Performance Security and remaining 75% of the total quoted contract value in the form of Indemnity Bond. This security shall have a validity period of one year and three months The Indemnity Bond will be renewed on yearly basis.
7. The Annual Maintenance Contract Charges will be released on quarterly basis. However, the services rendered by the firm during a particular quarter will be reviewed in the next quarter and based on the services rendered by the firm during the previous quarter; payment will be released in advance for the next quarter.

8. At the time of submission of Invoice for releasing quarterly advance payment, the firm shall submit quarterly service reports of the Cold Rooms countersigned by the In-charge of the unit with respect to previous quarter. Based on the service reports only, the AMC charges will be released.
9. The firm shall submit AMC charges for the ColdRooms separately on comprehensive basis, which shall include the cost of all the refrigeration machineries, Temperature Controllers, etc. All the essential spares/ components/ controls including gas charging and electrical spares / other components which are part of the refrigeration system that may be required for replacement during the contract period shall be included in the bids. 2 Nos. Incubation Chambers installed at SSPC, Bangalore are connected with **Carel Make Humidifiers**. These Humidifiers to be maintained during contract period which includes cost of parts.
10. The break down information of the defects in the Cold Rooms / Humidifiers etc. shall be initially intimated to the Firm, through phone call by the In Charge-Officer / staff of the unit. On receipt of the break-down information through telephonic message, a break-down complaint number should be intimated by the firm to the person of the concerned unit. This number is the proof of receipt of complaints and taking action for attending to the repairs. Further communication will be given, if necessary, through Letter/ Phone/ Fax/ E-mail etc. depending upon the facilities available in the location.
11. The firms shall attend to the defects of the Cold Rooms at the earliest possible time. I.e. within 24 hours from the time of receipt of the break-down complaint. If the Cold Rooms are not functioning for more than three days in a quarter, a penalty of Rs.100.00 per day per Cold Room shall be levied on the firm for the exceeding days. For calculating the penalty, Egg Room along with ante-room will be considered as One unit.
12. On no account, the Cold Rooms shall go idle due to break-downs for more than three days in a quarter irrespective of the number of break downs occurred in a quarter.
13. The penalty will be calculated at the end of every quarter, on the basis of number of days the Cold Rooms are remained non-functional during that particular quarter. The amount of penalty calculated, if any, will be deducted at the time of release of the quarterly AMC charges for the next quarter.
14. The firms awarded with the Annual Maintenance Contract of Cold Rooms should submit and enter a Contract agreement on Rs. 200/- stamp paper for a period of 2 years with Director, National Silkworm Seed Organization, CSB complex, 4th Floor BTM Layout, Madivala, Bangalore 560 068 within 15 days of receipt of AMC work order. If the firm fails to submit the agreement within the 15 days' time the AMC shall be awarded the next lowest bidder.
15. At the time of submission of invoice for releasing quarterly advance payment itself, the firm shall submit Service Reports of the Cold Rooms of the unit with respect to the previous quarter. Based on the Service Reports, the AMC charges will be released.

16. The firms interested to see all the 92 Cold Rooms installed at the Grainages before submission of quotations can visit the location during office working hours.
17. The firm shall be completely responsible for inspection of all Cold rooms / related equipment in working condition prior to awarding of AMC. Once AMC is awarded to the firm, from AMC start date the firm is completely responsible for breakdown / defects found in the cold rooms / Humidifiers and in no ways the firm cannot claim that cold rooms / Humidifiers were defective before awarding of AMC and needs to be repaired under chargeable basis. In such case the firm awarded AMC has to repair free of charge as per Annual Maintenance Contract.
18. The firms awarded with the Annual Maintenance Contract of Cold Rooms should not sub-contract the Annual Maintenance Contract to a third party.
19. The firms awarded with Annual Maintenance Contract of Cold Rooms should not sub contract the Annual Maintenance Contract to a third party or abandon the work in the middle of the Contract period. In such a case of any breach of any of the terms, the Director, NSSO reserves right to take such action as deemed fit in the facts and circumstances of each of such case.
20. **The firms can submit the technical bid accompanied with Earned Money Deposit (EMD) for an amount of ₹ 15,000/- in the form of Demand Draft drawn in favor of “Director, National Silkworm Seed Organization, Bangalore”.**
21. **No exemption from submission of EMD, on any grounds, will be allowed. Any bid not accompanied by EMD will be rejected, as non responsive.**
22. The EMD of the unsuccessful bidders shall be refunded after awarding work order to the successful bidder and on acceptance of work order by the successful bidder, the E.M.D of the successful bidder shall be refunded.
23. All the Quotations submitted shall have a validity period of 6 months from the date of opening of the Quotations.
24. **All the Sealed Quotations shall be superscribed as “Tender for Annual Maintenance Contract of 92 Cold Rooms (All India)” and shall be addressed to “The Director, National Silkworm Seed Organization, Central Silk Board, IV Floor, CSB Complex, B.T.M. Layout, Madivala, Bangalore-560068”.**
25. The envelope shall indicate the name and address of the party to enable the quotation to be returned unopened in case it is declared “late”.
26. If the envelope is not sealed and marked as required, the purchaser will assume no responsibility for the quotation misplacement.
27. The quotation received e-Mail; facsimile will be summarily rejected.

28. The quotation shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the firm, in which case such corrections shall be initialed by the person or persons signing the quotation.
29. The purchaser may, at its discretion, extend this deadline for submission of quotations by amending the documents in which case all rights and obligations of the purchaser and parties previously subject to the deadline will thereafter be subject to the deadline as extended.
30. The late date for submission of sealed bids at this Office will be on **24.08.2022 up to 03:00 PM**. The Quotations received after 03:00 PM on the last date stipulated will be summarily rejected.
31. The purchaser will open the tender box and the quotations, in the presence of representatives of the firms who may wish to participate in the quotation opening at **03:30 PM on 24.08.2022 in the Office of the Director, National Silkworm Seed Organization, Central Silk Board, Bangalore**. The firms interested to be present at the time of opening of the bids can participate at 03:30 PM on the above said date.
32. The quotation must be received by the Purchaser at the address specified not later than 03:00 PM on 24.08.2022. In the event of the specified date for submission of quotations being declared as holiday for the purchaser, the quotations will be received up to the appointed time on the next working day.

ANNEXURE-1

NATIONAL SILKWORM SEED ORGANIZATION

CENTRAL SILK BOARD BANGALORE – 560 068

STATES: KARNATAKA, TAMILNADU, ANDHRA PRADHESH, KERALA,
UTTARAKHAND, WEST BENGAL & UDHAMPUR

SL. NO	Name of the Centre	Egg Preservation Cold Room with Ante chamber	Moth Preservation Cold Room	Incubation Chamber	Approx. distance from Bangalore (Km)
KARNATAKA					
1.	SSPC, Vijayapura	01	02	01	50 km
2.	SSPC, Chintamani	01	01	01	80 km
3.	SSPC, Bangalore	01	03	03	-
4.	SSPC,Ramanagar	01	02	01	50
5.	SSPC, Mysore	-	02	-	140
6.	CSP, Mysore	-	01	-	140
7.	SSPC, Malavalli	01	02	01	120
8.	SSPC, K.R.Nagar	01	01	01	240
TAMIL NADU					
9	SSPC, Hosur	04	03	01	40
10	SSPC, Dharmapuri	01	02	01	
ANDHRA PRADESH					
11.	SSPC, Hindupur	01	01	01	100
12.	SSPC, Madanapalle	02	02	01	130
KERALA					
13.	SSPC, Palakkad	01	01	01	450
UTTARAKHAND					
14.	SSPC, Dehradun	05	01	01	2360
WEST BENGAL					
15	SSPC, D.B.Pur	02	02	01	1870
16	SSPC, Berhampore	00	04	00	2070
JAMMU & KASHMIR					
17	SSPC, Udhampur	00	03	00	2780
TOTAL		22	33	15	

Total Cold Room = 92 (Condensing unit 22x2+33) + 15 Incubation Chamber

Note: Egg Preservation Cold Room with Ante Chamber consists of Egg Room and Ante Chamber = 3 Cold Room (3 Refrigeration I condensing unit)

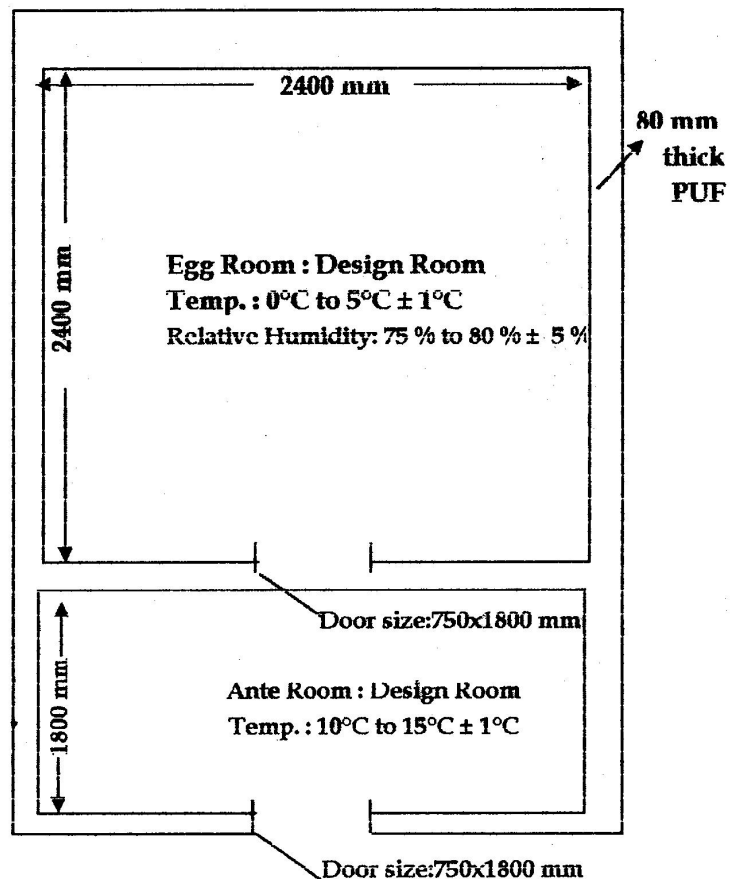
ANNEXURE - 2 (a)

**NATIONAL SILKWORM SEED ORGANIZATION
CENTRAL SILK BOARD
BANGALORE - 560 068**

**EGG PRESERVATION COLD ROOM
(BUILT WITH ANTE ROOM)
(All dimensions are in mm)**

Size of the Cold Rooms : Internal Dimensions

	Egg Room	Ante Room
Width :	2400 mm	2400 mm
Depth :	2400 mm	1800 mm
Height :	2400 mm	2400 mm



Measurement : Not to scale

ANNEXURE - 2 (b)

**NATIONAL SILKWORM SEED ORGANIZATION
CENTRAL SILK BOARD
BANGALORE - 560 068**

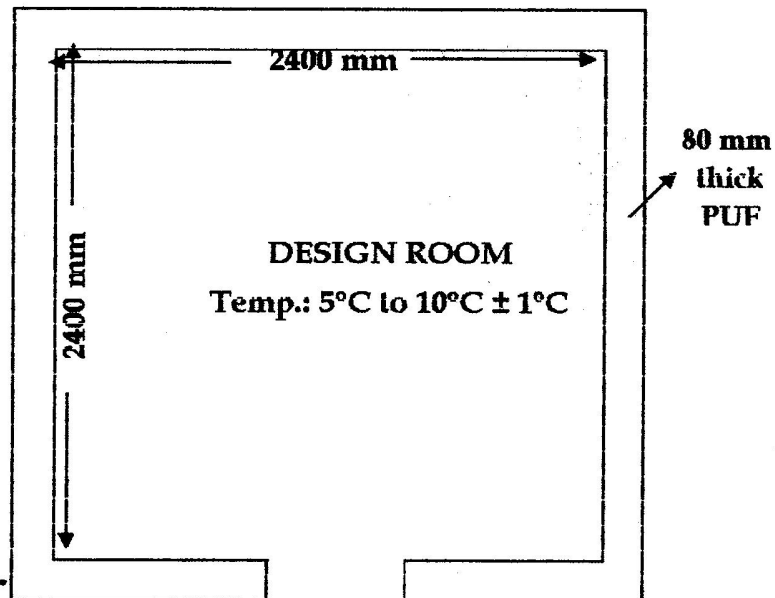
MOTH PRESERVATION COLD ROOM

**Size of the Cold Room : Internal Dimensions
(All dimensions are in mm)**

Width : 2400 mm

Depth : 2400 mm

Height : 2400 mm



Door size:750x1800 mm

Measurement : Not to scale

ANNEXURE 3

DataSheet-General

#	Description	Egg Preservation Cold Room	Ante Room	Moth Preservation Cold Room
1.	Size of the room (in mts.)	2.40x2.40x2.40	2.40x1.80x2.40	2.40x2.40x2.40
2.	Size of Door (in mts.)	0.75 x 1.80	0.75 x 1.80	0.75 x 1.80
3.	Type of locking between panels	Camlock	Camlock	Camlock
4.	Type of sealing between panels	Silicon	Silicon	silicon
5.	Type of refrigeration unit	DX type Air cooled	DX type Air cooled	DX type Air cooled
6.	Capacity of refrigeration unit	3.5 KW	3.5 KW	3.5 KW
7.	Type of compressor	Hermetic	Hermetic	Hermetic
8.	Make of Compressor	Kirloskar Copeland	Kirloskar copeland	Kirloskar copeland
9.	No. of Condensing unit	2 x 100% Capacity	2 x 100% capacity	2 x 100% capacity
10.	No. of evaporators	1 x 100% Capacity	1 x 100% capacity	1 x 100% capacity
11	Refrigerant	R-22	R-22	R-22
12.	Power Supply 415 V, 50 Hz.	2 KW	2 KW	2 KW
13	Type of defrost	Electric	Electric	Electric
14	Timer			

ANNEXURE 4

Data sheet - Compressor

#	Description	Egg preservation cold room	Ante room	Moth preservation cold room
1	Type of Compressor	Reciprocating	Reciprocating	Reciprocating
2	Type of construction	Hermetic	Hermetic	Hermetic
3	Make	Kirloskar Copeland	Kirloskar Copeland	Kirloskar Copeland
4	No. of Cylinders	2	2	2
5	Model	AH 5531 E	AH 5522E	AH 5522E
6	Displacement in cc.	52.93	39.82	39.82
7	Motor Circuit	3 Phase	3 Phase	3 Phase
8	Current Amps at operating condition	3 Amps	2.5 Amps	2.5 Amps
9	LRA at rated voltage	21 Amps	21 Amps	21 Amps
10	Operating Voltage	360 - 460 V	360 - 460 V	360 - 460 V
11	Oil Charge cc.	1330	1330	1330
12	Approximate Weight	32.3 Kg.	30.3 Kg.	30.3 Kg.

ANNEXURE 5

Data sheet - Evaporator

#	Description	Egg preservation cold room	Ante room	Moth preservation cold room
1	Type of Evaporator	DX	DX	DX
2	Model	EU -20	EU -15	EU - 15
3	Make	Rinac	Rinac	Rinac
4	Cooling Coil tube material	Copper	Copper	Copper
5	Tube dia. mm	09	09	09
6	Fin Material.	Aluminium	Aluminium	Aluminium
7	Fin spacing per 25 mm	8 to 10	8 to 10	8 to 10
8	Overall face area (in sq.m)	0.27	0.18	0.18
9	Number of Rows	06	06	06
10	Air quantity at 5 mm sp.cum/hr.	2550	1190	1190
11	No. of fans	02	01	01
12	Diameter of fans mm	200	200	200
13	Type of Fan	Axial	Axial	Axial
14	Type of defrost	Electrical	Electrical	Electrical

ANNEXURE 6

Data sheet – Air Cooled Condenser

#	Description	Egg preservation cold room	Ante room	Moth preservation cold room
1	Type of Condenser	Aircooled	Aircooled	Aircooled
2	Material of construction casing	GI	GI	GI
3	Model	CAU 20	CAU 15	CAU 15
3	Make	Rinac	Rinac	Rinac
4	Condensing Coil tube material	Copper	Copper	Copper
5	Tube dia. mm	09	09	09
6	Fin Material.	Aluminium	Aluminium	Aluminium
7	Fin spacing per 25 mm	10 to 13	10 to 13	10 to 13
8	Overall face area (in sq.m)	0.27	0.18	0.18
9	Number of Rows	04	04	04
10	Air quantity at 5 mm sp.cum/hr.	3026	3026	3026
11	No. of fans	01	01	01
12	Diameter of fans mm	380	380.	380
13	Type of Fan	Axial	Axial	Axial
14	Speed of Fan	1420	1420	1420

ANNEXURE 7

Refrigeration Components - Make & Model

#	Component	Make	Model
1	Compressor	Kirloskar Copeland	AH 5531 E, AH 5522 E
2	Fans	EPC, Fantasy	375 mm, 3ph, 230 & 300 mm, single phase
3	Expansion Valve	Danfoss	TEX 2
4	Drier	Danfoss I castle	V "
5	Liquid level indicator	Castle	V "
6	HP I LP safety switch	Lndfoss	Auto reset
7	Solenoid Valves	Castle I Danfoss	V "
8	Hand Shut off valve	Lndfoss	V " & ¼ "
9	Pressure guages	Febig I Eqv.	2 V " dia.
10	Electrical starters	L & T	ML0 (220 V)
11	MCB	MDS	4 pole Neutral, 16 amps.
12	Microprocessor controller	Soft Hard Automation system P. Ltd.	As per specification
13	Digital temperature controller	Sub-Zero	7510
14	Steam Humidifier	NORDMANN	RC. 222

ANNEXURE 8

ELECTRICAL LOADS OF THE EXISTING COLDROOMS

#	Name of the Centre	No. of working Cold Rooms&(I/C)	Total power load in K.W.	Region
1.	SSPC, Vijayapura	05	6	Southern Region
2.	SSPC, Chintamani	04	6	Southern Region
3.	SSPC, Bangalore	08	12	Southern Region
4.	SSPC, Ramanagaram	05	6	Southern Region
5.	SSPC, Mysore	02	4	Southern Region
6.	CSP, Mysore	01	2	Southern Region
7.	SSPC, Malavalli	05	8	Southern Region
8.	SSPC, K.R.Nagar	04	6	Southern Region
9.	SSPC, Hosur	12	32	Southern Region
10.	SSPC, Dharmapuri	05	6	Southern Region
11.	SSPC, Hindupur	04	6	Southern Region
12.	SSPC, Madanapalle	07	6	Southern Region
13.	SSPC, Palakkad	04	6	Southern Region
14	SSPC, Dehradun	12		North-Wesern Region
15	SSPC, D.B.Pur	07		Eastern Region
16	SSPC, Berhampore	04		Eastern Region
17	SSPC, Udhamapore	03		Northern Region
	Total =	92		

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