

	<b>INDIAN INSTITUTE OF TECHNOLOGY MADRAS</b> <b>Chennai 600 036</b>  Telephone: (044) 2257 4702 E-mail: ksreddy@iitm.ac.in	
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Dr. K. Srinivas Reddy  
Project Coordinator

Ref: MEE/KSRS/2018/1415/SPLX  
Dated: 21.01.2019

Limited Tender No: MEE/KSRS/2018/1415/SPLX

**Due Date: 04.02.2019, 4:00pm**

**Technical Bid opening meeting on Due Date: 04.02.2019, 4:30pm**

Dear Sir/Madam,

On behalf of the Indian Institute of Technology Madras, offers are invited for the supply of **“Solar Atmospheric Water Generator”** conforming to the specifications given in **(Annexure-I)**:

**Instructions to the Bidder**

- I. **Preparation of Bids:** - The Limited tenders should be submitted under one bid system (i.e.) Technical-cum-financial bid.
- II. **Delivery of the tender:** - The tender shall be sent to the below-mentioned addresses either by post or by courier so as to reach the following address before the due date and time specified in our Schedule:  
**Dr. K. Srinivas Reddy**  
**HTTP Lab**  
**Department of Mechanical Engineering**  
**IIT Madras**  
**Chennai - 600 036**
- III. **Opening of the tender:** - The offer/Bids will be opened by a committee duly constituted for this purpose.
- IV. **Prices:** - The price should be quoted in net per unit (after breakup) and must include all packing and delivery charges. The offer/bid should be exclusive of taxes and duties. The percentage of tax & duties should be clearly indicated separately. IIT Madras is eligible for concessional GST and relevant certificate will be issued. INDIAN INSTITUTE OF TECHNOLOGY MADRAS Chennai 600 036 Telephone: (044) 2257 5939 E-mail: sdevi@iitm.ac.in In case of import supply, the price should be quoted without custom duty. IIT Madras is exempted from levy of IGST on Imports and eligible for concessional custom duty (not exceeding 5%) and the price should be quoted on EX-WORKS and CIP basis indicating the mode of shipment.

- V. **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 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.
- VI. **Terms of Delivery:** - The item should be supplied to our Departments as per Purchase Order. In case of import supply, the item should be delivered at the cost of the supplier to our Institution. The Installation/Commissioning should be completed as specified in our important conditions.
- VII. **Technical Bid Opening:** The bids will be opened on **04.02.2019; 4:30pm** at the Department of Mechanical Engineering, IIT Madras.
- VIII. IIT Madras reserves the full right to accept / reject any tender at stage without assigning any reason.

Yours sincerely,

**Dr. K. Srinivas Reddy**  
**Department of Mechanical Engineering**  
**IIT Madras**  
**Chennai - 600 036**

## SCHEDULE

### Important Conditions of the tender

1. The due date for the submission of the tender is **04.02.2019, 4:00pm**.  
The offers / bids should be submitted in one bid systems (i.e.) Technical-cum-financial bid. Also, it should contain all Commercial Terms and Conditions including Taxes, transportation, packing & forwarding, installation, guarantee, payment terms, pricing terms etc. The bid should be put in cover and sealed. The Limited Tender for supply of **“Solar Atmospheric Water Generator”** should be written on the left side of the cover.
2. **Indian Agent:** If an Indian agent is involved, the following documents must be enclosed:  
Foreign principal's proforma invoice indicating the commission payable to the Indian Agent and nature of after-sales service to be rendered by the Indian Agent.
  - ✓ Copy of the agency agreement with the foreign principal and the precise relationship between them and their mutual interest in the business.
3. The offer/bids should be sent only for a machine that is available in the market and supplied to a number of customers. A list of customers in India and abroad with details must accompany the quotations. Quotations for a prototype machine will not be accepted.
4. Original catalogue (not any photocopy) of the quoted model duly signed by the principals must accompany the quotation in the Technical-cum financial bid.
5. Compliance or Confirmation report with reference to the specifications and other terms & conditions should also be obtained from the principal.
6. **Validity:** Validity of Quotation not less than 60 days from the due date of tender.
7. **Delivery Schedule:** - The tenderer should indicate clearly the time required for delivery of the item. In case there is any deviation in the delivery schedule, liquidated damages clause will be enforced or penalty for the delayed supply period will be levied.
8. **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.
9. **Payment:** -
  - I. No Advance payment will be made for Indigenous purchase. However 90% Payment against Delivery and 10% after installation, commissioning and training. In case of import supplies the payment will be made only through 100% Letter of Credit i.e. (90% payment will be released against shipping documents and 10% after successful installation wherever the installation is being done).
  - II. **Advance Payment:** - No advance payment is generally admissible. In case of specific percentage of advance payment is required, the Foreign Vendor has to submit a Bank Guarantee equal to the amount of advance payment and it should be routed through the Beneficiary Bank to the end user Bank. Otherwise, the Indian Agent of the foreign vendor has to submit a Bank Guarantee through a Nationalized Bank of India.

10. **On-site Installation:** - The equipment or machinery has to be installed or commissioned by the successful bidder within 30 to 45 days from the date of receipt of the item at site of IIT Madras.
11. **Warranty/Guarantee:** - The offer should clearly specify the warranty or guarantee period for the machinery/equipment. Any extended warranty offered for the same has to be mentioned separately. (For more details please refer our Technical Specifications).
12. **Late offer:** - The offers received after the due date and time will not be considered. The Institute shall not be responsible for the late receipt of Tender on account of Postal, Courier or any other delay.
13. **Acceptance and Rejection:** - I.I.T. Madras 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.
14. **Do not quote the optional items or additional items unless otherwise mentioned in the Tender documents / Specifications.**
15. **Disputes and Jurisdiction:** -
  - a. **Settlement of Disputes:** Any dispute, controversy or claim arising out of or in connection with this PO including any question regarding its existence, validity, breach or termination, shall in the first instance be attempted to be resolved amicably by both the Parties. If attempts for such amicable resolution fails or no decision is reached within 30 days whichever is earlier, then such disputes shall be settled by arbitration in accordance with the Arbitration and Conciliation Act, 1996. Unless the Parties agree on a sole arbitrator, within 30 days from the receipt of a written request by one Party from the other Party to so agree, the arbitral panel shall comprise of three arbitrators. In that event, the supplier will nominate one arbitrator and the Project Coordinator of IITM shall nominate one arbitrator. The Dean IC&SR will nominate the Presiding Arbitrator of the arbitral tribunal. The arbitration proceedings shall be carried out in English language. The cost of arbitration and fees of the arbitrator(s) shall be shared equally by the Parties. The seat of arbitration shall be at IC&SR IIT Madras, Chennai.
  - b. **The Applicable Law:** This Purchase Order shall be construed, interpreted and governed by the Laws of India, Court at Chennai shall have exclusive jurisdiction subject to the arbitration clause.
  - c. Any legal disputes arising out of any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located within the city of Chennai in Tamil Nadu.
16. All Amendments, time extension, clarifications etc., will be uploaded on the website only and will not be published in newspapers. Bidders should regularly visit the above website to keep themselves updated. No extension in the bid due date/ time shall be considered on account of delay in receipt of any document by mail.

**Acknowledgement:** - It is hereby acknowledged that the tenderer has gone through all the conditions mentioned above and agrees to abide by them.

**SIGNATURE OF TENDERER**

**ALONG WITH SEAL OF THE COMPANY WITH DATE**

## Solar Atmospheric Water Generator

This system is developed to generate water from moisture present in atmospheric at the same time cooled air will be used for air conditioning.

Cycle diagram, Front & back view of system is given below with specification of all component used in system

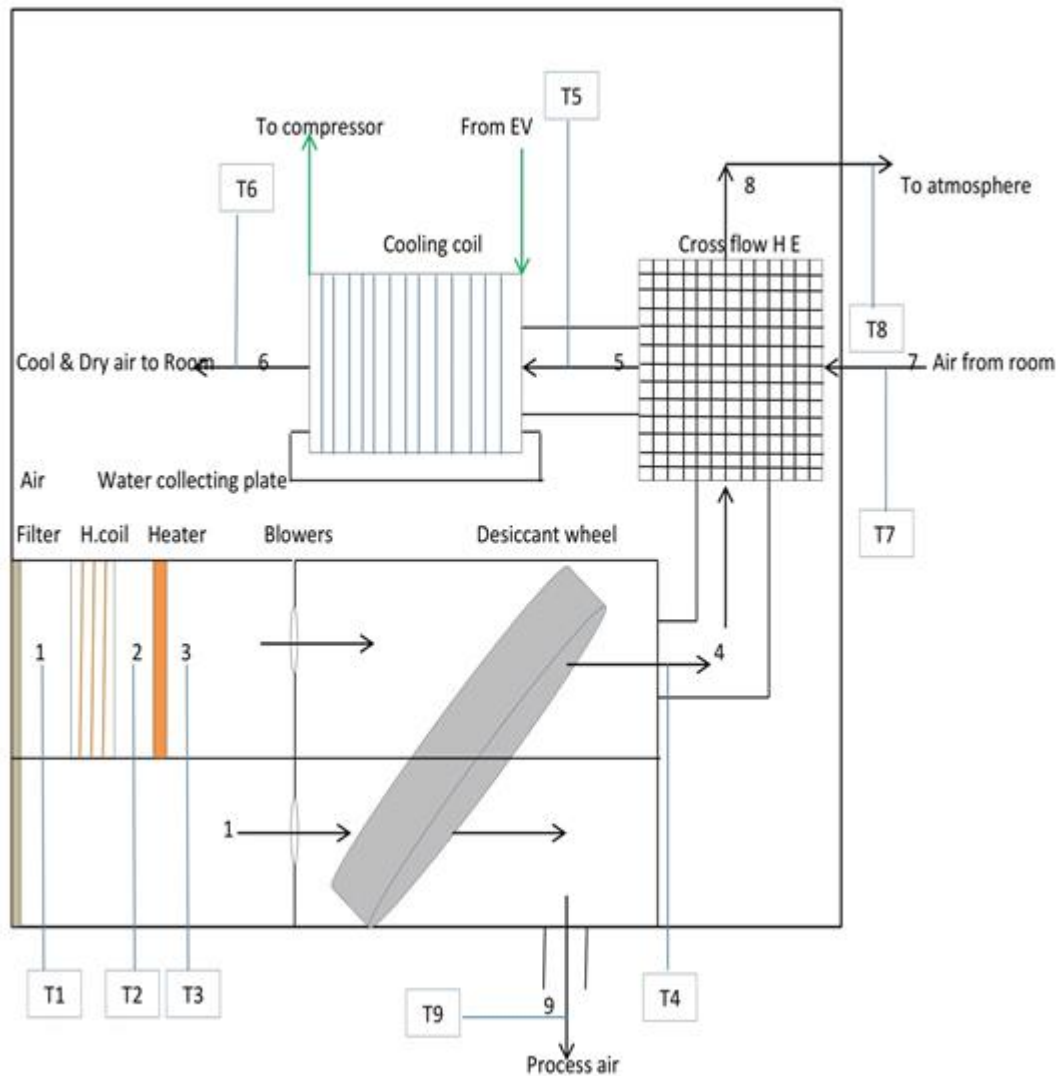


Fig 1- Front view

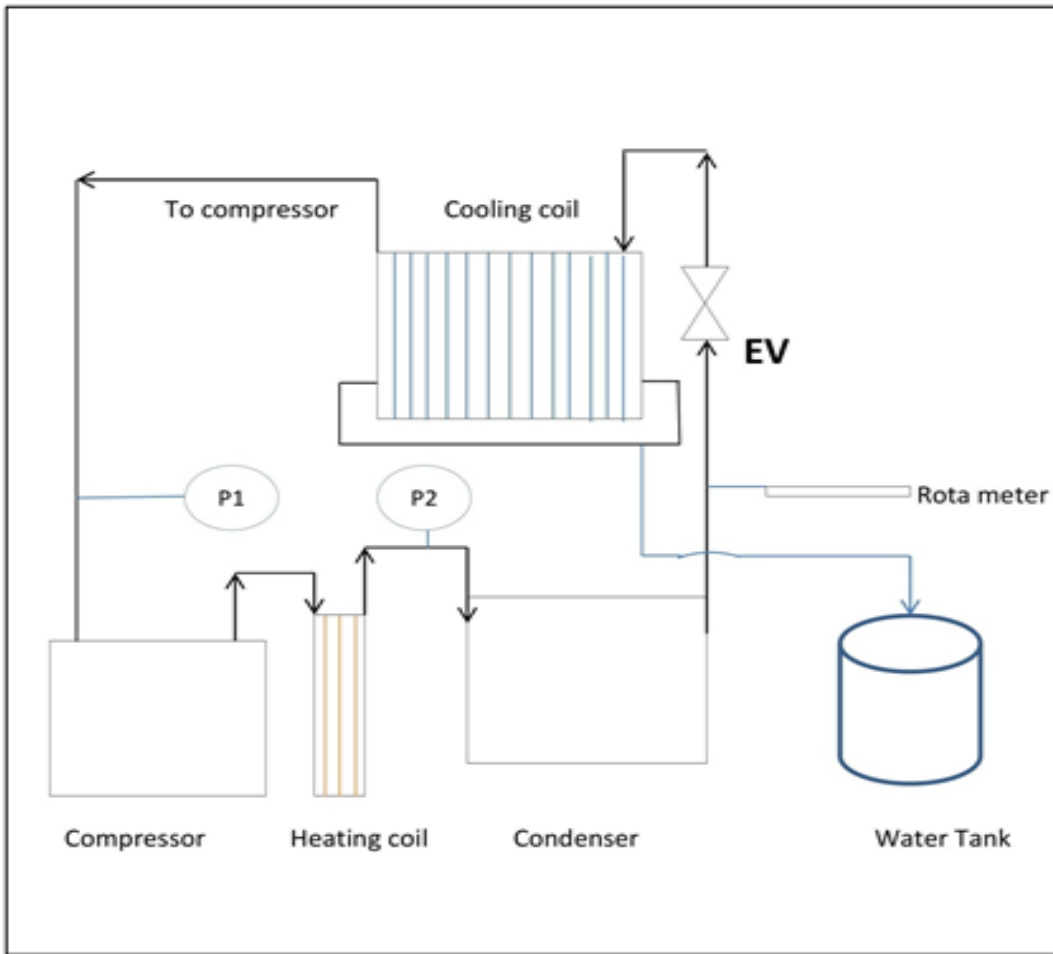


Fig 2-Back view

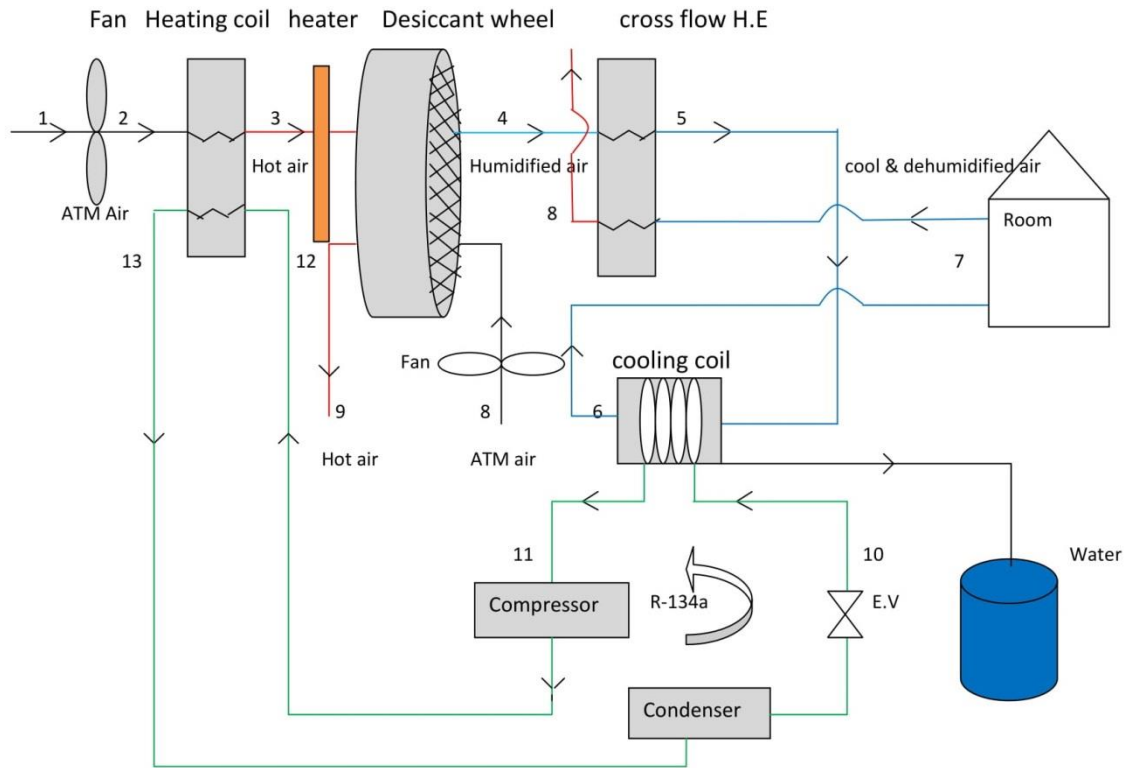


Fig 3- Cycle diagram

No	Components	Specifications
1	Pre Filters	10 microns of 90 % efficiency
2	Construction	Double Skin construction of 24 gauge plain Gi Inner ,Plastic coated outer 25 mm thick Puff of density 40kg/cum
3	Cooling and dehumidification coil	6 row deep coils with min 12fins hydraulic coat, frontal area at least 30*30cm, surface temperature of 4 <sup>0</sup> C
4	Blower Type	Centrifugal blower should run at 2 speeds 600 & 300 CMH one unit 600 & 300 CMH one unit 600 CMH One Unit
5	Belt, pully set	Fenner/
6	Safety Limit switch	L&T limit switch
7	Marine lights	CG lights
8	Desiccant wheel	DRI-Desiccant Rotor with drive mechanism, reduction gear box for 600 cmh air flow rate
9	Pre Heating Coil	4 row with frontal area at least 30*30cm
10	Compressor	Hermetically sealed compressor capacity of 5 kw
11	Condenser	Air cooled, Cooling capacity of 20 kw

12	Expansion valve	Thermostatic Expansion valve
13	Refrigerant	R134 a
14	Pipe line	One inch pipe GI Pipes
15	Condensate Pot	MS Tank for collection of condensate
16	Connection Duct	GI Fabricated Ducts
17	Temperature Measurement	10 Thermometers will be connected in various locations to read the dry bulb & wet bulb temperature regularly
18	Pressure Measurement	2 Pressure Gauges will be fitted to measure the pressure
19	Mass flow rate of refrigerant measurement	1 Rota meter
20	Cross flow Heat exchanger	Hybrid Plate type cross flow heat exchanger - air to air to accommodate two air streams of 600 cmh
21	Air intake for Desiccant wheel	intake louvers/damper For Desiccant Wheel
22	Refrigerant Circulation	Insulated Copper Pipe of 12 mm diameter with necessary fittings for refrigerant circulation from compressor to heating circuit and back to condenser
23	Base Frame	Base Frame for The system -Fabricated Structure of Mild Steel Channels
24	Heater	To heat air after heating coil to reach it's temperature of 80 <sup>0</sup> C/ with variable heating capacity of 1-3 kw

Note-1-Minor components used in fabrication of system will be scope of manufacturer  
2-The item should be supplied to our Departments as per Purchase Order.