



MED

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Grams :

**SARDAR VALLABHBHAI NATIONAL
INSTITUTE OF TECHNOLOGY, SURAT-395 007.**

No. MED/Renewable and Sustainable Energy Lab/45331/2021-22

Date: 24/02/2022

To,
Institute Website

સર્દાર વલ્લભભાઈ
સુરત યુનિવર્સિટી
સુરત-૩૯૫૦૦૭

28 FEB 2022

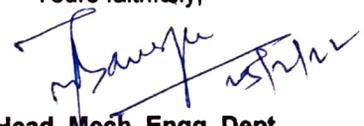
SUB: - Enquiry for supply of test facility of Solar assisted humidification dehumidification water desalination system with necessary instrumentations for Renewable and Sustainable Energy Laboratory.

Dear Sir,

You are requested to quote your prices for supply of stores listed overleaf in Annexure-1. The quotation may be sent to the undersigned in a sealed envelope and subscribed as: "Quotation with reference to Enquiry No. MED/ Renewable and Sustainable Energy Lab 45331/2021-22 dtd: 24/02/2022. Your quotation should reach the undersigned on or before **05/03/2022 at 5:00 pm.**

- The quotations should be furnished with the following information.
- 1) The brand or make of each item should be specifically stated and wherever necessary, Complete set of specifications and dimensions should be given.
 - 2) If asked, samples are accompany the quotations
 - 3) Sales tax, General tax, Central Sales tax, Custom duty, Insurance charges, Packing and Forwarding charges, if not included in the prices quoted, should be clearly specified.
 - 4) The period of validity of the quotation should be at least 45 Days. Offers subject to prior sale may please be avoided.
 - 5) The delivery period is to be clearly mentioned in the quotation.
 - 6) The mode of delivery of the stores may be mentioned. The delivery should be F.O.R. Surat or at the Institute.
 - 7) All concessions available to an educational institution should be specified and also taken into account while quoting.
 - 8) This Institute is located within the limits of Surat Municipal Corporation (S.M.C.) & exempted from the paying of octroi duty on incoming goods from outside limits of S.M.C.
 - 9) This Institute is registered with the dept. of scientific & industrial Research (DSIR) for the purpose of availing custom duty exemption & central excise duty exemption, and hence the certificate to this effect will be issued wherever it is necessary on demand.
 - 10) Payment is normally made by cheque drawn on the S.V.N.I.T. Branch Office of State Bank of India, Surat-395007 within a period of thirty days from the date of receipt of stores.
 - 11) Your specifications & terms- conditions should be as per the format attached, must be on your company letterhead & signed by an authorized person.
 - 12) Offered quotation may be rejected if any ambiguity is found in offered specifications, terms & conditions supplied by party in specified tabular format.
 - 13) The Director reserves the right to accept stores, which are not strictly in confirming with the specifications but otherwise, found suitable.
 - 14) The fabricated experimental test facility will be placed on terrace of Renewable and Sustainable Energy Laboratory.
 - 15) Training to operate the test facility must be provided.

Yours faithfully,


Head, Mech. Engg. Dept

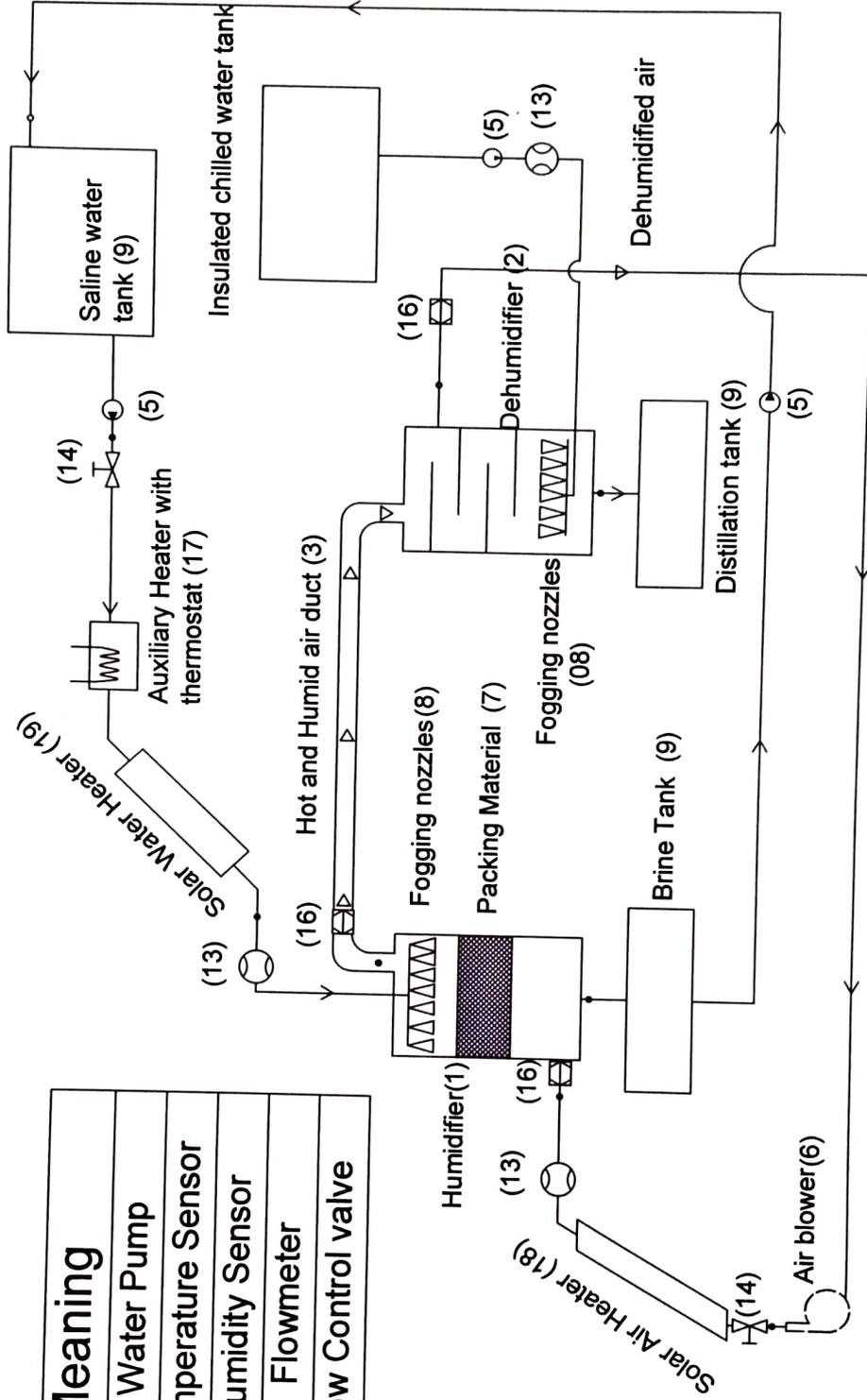
Annexure-1

Specifications of various components used in the solar assisted humidification dehumidification water desalination system with necessary instrumentation			
Sr. No.	Name of the component	Description / Specification	Qty.
1	Humidifier with packing material arrangement	<ul style="list-style-type: none"> • Size: 2 ft x 2ft x 8 ft (height) (Thickness 3mm) • Material: Acrylic/ Plexiglas • Required complete insulation of the humidifier 	03
2	Dehumidifier	<ul style="list-style-type: none"> • Size: 2 ft x 2ft x 8 ft (height) (Thickness 3mm) • Material: Acrylic/ Plexiglas • Required complete insulation of the humidifier 	03
3	Duct connections	<ul style="list-style-type: none"> • To connect the humidifier and dehumidifier with complete insulation 	01
4	System frame/ body (HDH system)	<ul style="list-style-type: none"> • To mount the humidifier, dehumidifier and measuring instrument (HDH system) • Material: Metal frame 	01
5	Water pump (for water circulation)	<ul style="list-style-type: none"> • To circulate the water from saline water tank to humidifier through solar water heater • 12 V DC , 0.55 kW 	02
6	Axial Flow air blower	<ul style="list-style-type: none"> • To circulate the air flow into the humidifier • 0.5kW 	01
7	Packing material	<ul style="list-style-type: none"> • Material (03) <li style="padding-left: 20px;">1.Honey-comb papers <li style="padding-left: 20px;">2.Cellulose pads <li style="padding-left: 20px;">3.Polyvinyl chloride (PVC) packing • Size of the packing material as per cross section of the humidifier 	01 each
8	Sprinklers/ Nozzle for fogging arrangement	<ul style="list-style-type: none"> • To spray the water into the humidifier • Size: various size ranging from 20-80 μm in diameter 	02 set
9	Water tank	<ul style="list-style-type: none"> • To store the water • Capacity: 200 litre (for Saline water, No Insulation required) • 50 litre (for Brine, No Insulation required) • 50 litre (for distilled water, No Insulation required) • 50 litre (Insulated chilled water tank) 	01 each
10	Insulation	<ul style="list-style-type: none"> • Insulations provided to the humidifier, dehumidifier and all piping systems to reduce the heat transfer losses • Material: Glass wool 	-
11	Piping connections and valves	<ul style="list-style-type: none"> • As per requirement/ connection of the system given in the setup diagram. • Required complete insulation to the piping connections. 	--
12	Thermocouple	<ul style="list-style-type: none"> • For temperature measurement at various locations mention in the set-up diagram • RTD Type thermocouple • Range: 0-500 $^{\circ}$C 	10

13	Flow meters	<ul style="list-style-type: none"> • To measure the air and water flow rate flowing through the system • Range: 1-50 L/min (water) • Range: 0.01–50.0 m/s (air) 	01
14	Flow control Valves	To control the air and water flow rate	02
15	16 Channel Universal Data Logger	temperature measurement, Pressure measurement, humidity measurement multi-Channel (16-channel) data logger with recording facility	01
16	Hygrometer (Humidity sensor)	<ul style="list-style-type: none"> • To measure the relative humidity at the inlet and outlet of the humidifier and dehumidifier. • Range: 0-100% RH 	03
17	Auxiliary Heater with thermostat	<ul style="list-style-type: none"> • For night-time heating • Capacity: 3 kW 	01
18	Evacuated tube with heat pipe solar air heater	<ul style="list-style-type: none"> • To heat air before entering into the Humidifier • ETC tubes with heat pipe arrangement for air heating with frame structure • Maximum temp.: 90 °C 	01
19	Evacuated tube solar water heating system	<ul style="list-style-type: none"> • Maximum Temp.: 80°C • ETC tubes with frame structure 	01

TITLE: Schematic diagram of solar assisted humidification dehumidification water desalination system with necessary instrumentations

Symbol Meaning	
○	Water Pump
●	Temperature Sensor
⊞	Humidity Sensor
○	Flowmeter
⊞	Flow Control valve



Note: Bracketed number indicates the Sr. no. of the component given in the Annexure 1