

NATIONAL INSTITUTE OF TECHNOLOGY
KURUKSHETRA-136119

No. MED/NITK/2018/116/3340

Dated: 29/06/18


M/s Institute website

Sub: INVITATION OF QUOTATIONS FOR HYBRID POWERED LIQUID DESICCANT SYSTEM.

1. You are invited to submit your most competitive quotation for the following goods:

Sr.No.	Brief Description & Specifications of Goods	Quantity
1.	Hybrid Powered Liquid Desiccant System (Detailed Specifications are attached)	01 Nos.

2. Necessary literature of the goods may please be sent to facilitate to take decision.
3. Payment will be made Online through RTGS/NEFT within 30 days after receipt of material in good condition and according to specifications. The Bank detail for making online payment may be indicated in the quotation.
4. The supplier shall deposit Earnest Money alongwith the Quotation amounting to Rs. 30000 /- in shape of Accounts Payee Demand Draft, Fixed Deposit Receipt, Bankers Cheque or Bank Guarantee from any commercial Bank in favour of the Director, National Institute of Technology, Kurukshetra. The Quotations without Earnest Money shall be rejected, the EMD will remain valid for a period of 45 days beyond the final validity period of quotation.
5. Performance Security @ 05% of the total value of the equipment may be furnished in shape of Demand Draft, Fixed Deposit Receipt or Bank Guarantee from any Commercial Bank in favour of the Director, NIT Kurukshetra valid upto 60 days after the date of completion of warranty .
6. The items must be supplied within delivery period or delivery period extended by the Institute on the request of the supplier on genuine grounds otherwise the penalty for delayed period @ 0.5% of the amount shall be charged for every week or part thereof and the maximum 10%..
7. The goods are required exclusively for Research Purpose. The Duties are not payable by the Institute.
8. The quotation should remain valid for a period not less than 60 days from the date of submission.
9. The firm must have got **GST No.** printing on their quotation. Please quote FOR NIT Kurukshetra.
10. The right of accepting or rejecting any quotation and to cancel the bidding process and reject all quotations without assigning any reason is reserved with the Institute.
11. The due date for receipt of quotation is **16.07.2018** and will be opened on next working day. Please quote on the top of the envelope our Ref. No. and due date of opening.


28.6.18
Prof-Incharge (Stores)

Specifications
Hybrid Powered Liquid Desiccant System

Sr. No.	Item Name	Qty	Operating Range
1	Dehumidifier (Flat plate, 5 layered, Material: Acrylic), Size: 0.762 m x 0.911 m x 0.05 m	1	$m_{air,in}$ - 0.2-0.6 kg/s $m_{s,in}$ - 0.05-0.5 kg/s $C_{s,in}$ - 35 to 45 % by wt. $T_{a,in}$ -20°C to 48°C $T_{s,in}$ -10°C-20°C
2	Regenerator (Material: Acrylic), Size: 0.762 m x 0.911 m x 0.05 m	1	$m_{air,in}$ - 0.2-0.9 kg/s $m_{s,in}$ - 0.05-0.9 kg/s $C_{s,in}$ - 30 to 45 % by wt. $T_{a,in}$ -20°C to 48°C $T_{s,in}$ -50°C-100°C
3	Evaporative Cooler (Made of high quality material)	1	$m_{air,in}$ - 0.1-1.0 kg/s m_w -0.2-1.0 kg/s
4	Exhaust (6"to 8" Dia., Made of high quality material)	3	$m_{air,in}$ - 0.1-1.0 kg/s
5	Cold Water Cooler Circulator (Made of high quality material)	2	m_w -0.2-1.0 kg/s
6	Solution Heat Exchanger	1	Shell n Tube type Length 2ft. Dia. 8 inches No.of tubes 10-15
7	Storage Tank Overhead (Made of high quality material)	2	100 ltr
8	Storage Tank (Made of high quality material)	3	200 ltrs
9	Solar Collector (Evacuated Tube Collector)	1	No. of tubes 10 Length of tubes- 6 ft. Dia. of tube 52cm Temperature of collector- 100-120 °C
10	Pump	6	0.02-0.5 kg/s
11	Bio Mass Heating Unit (Portable type Biogas Unit)	1	8 kWh
12	Fitting Pipe Lining	1	According to installation
13	Temperature Sensor 3 wire high accuracy (PT100 RTD)	15	0°C-200°C
14	Anemometer (Digital)	2	0-45 m/s
15	Hygro-thermometer Digital	2	RH: 0-100 % (-10-100 °C)
16	Electronic weighing Machine 6 Kg	1	Resolution: 0.01 gm
17	Electronic weighing Machine 200 Kg	1	Resolution: 1 gm
17	Rotameter	2	0.1 lpm-1 lpm
18	Valves	10	According to installation
19	Condensing Unit	1	Water tube condenser No. of tubes 15-20
20	Main Heat Exchanger	1	Shell n Tube type Capacity 100 ltrs Dia.12-15 inches No.of tubes turns 10-15

$m_{air,in}$ – mass flow rate of incoming air to the dehumidifier
 $m_{s,in}$ – mass flow rate of desiccant solution entering the dehumidifier
 C – Concentration of the solution
 T_{air} – temperature of the air
 T_s – Temperature of the solution

