



DEPARTMENT OF CHEMICAL ENGINEERING
INDIAN INSTITUTE OF TECHNOLOGY MADRAS
CHENNAI – 600036, INDIA

Ref. No. CHE/16-17/682/NFSC/RAJN

Date: 27 September, 2018

Due date: 12 October, 2018

Item: Chiller unit with 2 TR cooling capacity for customized gas hydrate experimental setups

1. Quotations are invited in duplicate for the item shown overleaf (in Annexure I). The quotations duly sealed and superscribed on the envelope with reference no. and due date, should be addressed to the undersigned so as to reach on or before the due date mentioned above
2. Quotations are only invited from firms who have at least five years of experience in manufacturing lab scale chillers/cooling units as well as industrial scale refrigeration/cooling systems
3. The quotations should be valid for sixty days from the due date and the period of delivery required should also be clearly indicated.
4. The total cost of the equipment in terms of CIP Chennai should be clearly mentioned.
5. Terms of warranty and guarantee should be explicitly mentioned.
6. Packing and delivery charges, customs and clearance duty should be clearly stated.
7. Goods shall not be supplied without an official supply order.
8. Local firms: Quotations should be for free delivery to this institute. If quotations are for ex-godown, delivery charges should be indicated separately.
9. Firms outside Chennai: Quotations should be for F.O.R. Chennai. If quotations are F.O.R. consignor station, freight charges by passenger train / lorry transport must be indicated. If quotation is for ex-godown, packing, forwarding and freight charges must be indicated.
10. The rate of sales / general taxes and the percentage of such other taxes legally leviable and intended to be claimed should be distinctly shown along with the price quoted. Where this is not done, no claim for sales / general taxes will be admitted at any stage and on any ground whatsoever. The taxes leviable should take into consideration that we are entitled to have Concessional Sales Tax (CST) applicable to non-government educational institutions run with

no profit motive for which a concession sales tax certificate will be issued at the time of final settlement of the bill.

10. Payment: Specify the mode of payment and if advance payment has to be made. Every attempt will be made to make payment within 30 days from the date of receipt of bill / acceptance of goods, whichever is later.
11. IIT Madras is exempt from payment of excise duty and is eligible for concessional rate of customs duty. Necessary certificate will be issued on demand.
12. IIT 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.
13. In case of any queries/clarifications, please contact Dr. Rajnish Kumar, Chemical Engineering, IIT Madras, Chennai, E-mail: rajnish@iitm.ac.in.
14. The sealed quotation may be sent to

Dr. Rajnish Kumar

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Chennai – 600036

(P) +91-44-22574180

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ANNEXURE I

Technical Specifications for Chiller Unit

Scope/Application: A chiller unit which will be used to cool various customized setups for gas hydrate based systems and applications. The chiller unit needs to be extremely robust as operation of the chiller would be 24x7, 365 days a year. The chiller should be highly precise, i.e. say when the chiller is set to 1 deg C, it should supply water at exactly 1 deg C and not any other temperature. Maximum tolerable limit of variation is **0.1** deg C. All the insulation for the chiller as well as the piping required for chiller in/out connection should be provided.

Specifications of the Setup:

a)	Operation Temp Range	-10 deg C to 20 deg C
b)	Cooling capacity at -10 deg C	2 TR
c)	Minimum continuous pumping rate (at duty point)	15 litre/min
d)	Minimum temp required to be maintained at chiller outlet	-10 deg C
e)	Desired chilled coolant pressure	2 kg/cm ²
f)	Chiller in/end connections	As required to maintain desired flow rate and cooling
g)	Minimum chiller pump power	1.5 HP
h)	Minimum Warranty Required	2 years
i)	Commissioning	Commissioning of the unit shall be done from vendor's side and should be explicitly mentioned in the quotation
j)	Servicing	We expect visits from the vendor's technicians every six months for servicing of the unit. First two servicing operation should be inclusive in the unit's cost indicated.