



Indian Institute of Science (IISc)
Bangalore – 560012
(www.iisc.ac.in)

NOTICE INVITING TENDER

under the two-cover bid system

for

**Supply, Installation, Testing and Commissioning of Air
Conditioners at New Chemical Science Building,
Indian Institute of Science, Bengaluru**

Tender No: IISc/ChemSc/AC/2021

Date: 29 March 2021

Contact Details for this tender:

Prof. Partha S. Mukherjee

Inorganic and Physical Chemistry (IPC) Department Office

Indian Institute of Science

Bangalore 560012

Email: psm@iisc.ac.in

Indian Institute of Science, Bangalore

Tender Inviting Authority: Registrar, Indian Institute of Science, Bangalore -560012, India

Title of the Tender: Supply, Installation, Testing and Commissioning of Air Conditioners at New Chemical Science Building, Indian Institute of Science, Bengaluru

Tender Ref. No.: IISc/ChemSc/AC/2021, Date: 29 March 2021

IISc is interested in purchasing 152 numbers (64 numbers 1.5 Ton capacity and 88 numbers 2.0 Ton capacity) of air conditioners (Split AC) for the New Chemical Science building at IISc. The required technical details including terms and conditions are provided below. Please send us technical and commercial quotes in separate sealed envelopes addressed to Inorganic and Physical Chemistry Department Office [Kind Attn: Prof. Partha S. Mukherjee], Indian Institute of Science, Bangalore-560012, by 2 PM of 23rd April, 2021.

The system must consist of the following details (Complete technical details and quantity):

- 1. 1.5 Ton Capacity Air Conditioners (Quantity: 64 units):** Supplying of 5 STAR Inverter (Variable Speed) type Split Air conditioners of 1.5 Ton capacity for operation on A/C supply single phase 50 Hz 230 Volts with hermetically sealed compressor with air cooled condenser, motor capacitor and start run capacitors, relay and over load protector internal unit, with one indoor and one outdoor unit. The condenser unit will be placed outside the room on an MS stand to avoid noise. A 3 Mtr. length of suitable size copper tubing covered with insulation tube should be provided. A suitable capacity 3 core sheathed/ PVC copper cable and a battery operated wireless remote unit should be included. The AC unit shall have 2 years warranty period and the compressor shall have 10 years warranty period. (Make: Blue star /Hitachi/ Daikin/Voltas/LG/Samsung)
- 2. 2 Ton Capacity Air Conditioners (Quantity 88 units):** Supplying of 5 STAR Inverter (Variable Speed) type Split Air conditioners of 2 Ton capacity for operation on A/C supply single phase 50 Hz 230 Volts with hermetically sealed compressor with air cooled condenser, motor capacitor and start run capacitors, relay and over load protector internal unit with one indoor and one outdoor unit. The condenser unit will be placed outside the room on an MS stand to avoid noise. A 3 Mtr. length of suitable size copper tubing covered with insulation tube should be provided. A suitable capacity 3 core sheathed/ PVC copper cable and a battery operated wireless remote unit should be included. The AC unit shall

have 2 years warranty period and the compressor shall have 10 years warranty period. (Make: Blue star /Hitachi/ Daikin/Voltas/LG/Samsung).

3. Installation charges for Split type air conditioner with allied works for one indoor and one outdoor unit is to be mounted on suitable Angle Iron / MS stand support for Split type A/C units. The suitable Angle Iron / MS stand support shall be provided by the vendor.
4. Supplying and installation of insulated refrigerant copper tubing of suitable size with polythene foam insulation and 3/4 core 4 Sq.mm PVC insulated copper wiring between indoor and outdoor unit. Please quote for 450 Mtr additional tube as per this specification. The payment will be made as per the actual length of additional tube require for installation of the ACs.
5. Supplying & filling refrigerant gas for extra copper refrigerant piping including labour charges & Nitrogen gas for pressure and leak testing etc.
6. Supplying and installation of Timer control (**Total quantity: 60 units**) for cyclic operation of 2 Split type A/C units. In Logic One, only one AC is to be operated at a time and equal running of each AC is to be ensured during continuous operation. In Second logic, One or both ACs will run as per Demand. It should have built-in protection against UV, OV & OL for both AC units. (Make: Minilec PROTOCOM -4 model)
7. For all the ACs, supplying, erecting, testing and commissioning of 3 KVA voltage stabilizer suitable for 170 to 270 V input and load variation from no load to full load, with overload protection, spike suppression, operating at 0° C to 40°C. Range etc., complete. (**Make:** V-Guard)
8. For all the ACs, supplying and fixing of metal industrial plug and socket of 2 pole and earth plugs, with 20 A SP MCB. The entire plug and socket shall be mounted in a thermoplastic / powder coated metal box & wired Completely. (**Make:** Havells/Legrand/ABB)
9. Supplying and fixing of 25 mm PVC casing and capping on the wall or ceiling using necessary materials like bends, screws at an interval of 300 mm etc. as required.
10. 1.5 sqmm -- Wiring for grounding for AC units' power circuit using one of FRLS PVC insulated 1100V grade, multistrand Copper with low conductor resistance single core wire in open or concealed system of wiring as per IS-694:1990. (**Make:** Havells/Polycab/Finolex).
11. 4 sqmm -- Wiring for AC units' power circuit using one of FRLS PVC insulated 1100V grade, multistrand Copper with low conductor resistance single core wire in open or concealed system of wiring as per IS-694:1990. (**Make:** Havells/Polycab/Finolex).

Payment Terms:

1. The successful bidder is required to submit Performance Security / Performance Bank Guarantee (PBG) within two weeks of the issue of Purchase order (PO), which will be valid for two months beyond the contractual obligations including warranty period. PBG should be for 3% of the total PO value. Standard rules of GFR will be followed for forfeiting / return of PBG.
2. 100% payment will be released only after complete satisfactory supply, installation, testing and commissioning of all items to the satisfaction of IISc team. Any payment will be released only after submission of PBG followed by its verification of genuineness.
3. Any advance payment will not be released. A bid containing condition of advance payment will summarily rejected.
4. Place of delivery and installation is New Chemical Science Building, IISc, Bangalore.

Other Terms & Conditions:

1. The bidder must be either Indian OEM (Original Equipment Manufacturer) or its authorized Indian distributors. Valid certificates must be attached.
2. The bidder must have valid GSTIN. Valid certificates must be attached.
3. The vendor should have carried out installation of a value that is similar to the one being tendered. Related purchase orders should be produced along with the tender documents and contact of customers where the installations have been carried out should be given. Vendor must have minimum Rs. 50 Lakh turn over in the FY 2019-20.
4. Vendor must have at least 5 years of experience in supply and installation of ACs.
5. Vendor must quote for all line-items.
6. The quantities mentioned in the BOQ are approximate. The vendor shall assess the quantity as per the site requirement and the measurements will be made as per actuals.
7. Turnaround time for any repairs during warranty period - Dedicated support number with a promised turn around for inspection of 24 hours or lesser (NOT business hours) and service time of 5 business days or lesser.
8. The bidder shall have proper Service Centre at Bangalore for quick service back up.
9. IISc will have absolute right to modify / cancel this tender and accept / reject any bid.
10. While visiting IISc campus, the bidder's representative must have a valid authorization letter, and a valid ID card. The visitors have to follow all safety and security norms and instructions of IISc including COVID-19 related guidelines.
11. Late submission of bids is not permitted.

12. Bids must be in two-cover bid system (Technical Bid and Price Bid). Both the separately sealed bids should be kept in a bigger sealed envelop mentioning our Tender reference no. and name of the item. Technical Bid must contain both the Techno-Commercial Compliance Sheets, related documents, technical literatures and any other documents (except Price Bid).
13. Successful bidder will be decided on the basis of overall (grand total of all items taken together) Lowest (L-1) of Price Bid of technically qualified bids.
14. A copy of the tender document (duly sealed and signed by the bidder on pages) must be attached with the technical bid declaring the bidder accepts all terms & conditions of the tender. Conditional bid will be rejected. Price of an item must not be mentioned in the technical bid, failing which the technical bid will be rejected.
15. Dates: -

Date of publication of tender	29 th March, 2021
Last Date of pre-bid query to be sent by email only to psm@iisc.ac.in	10 th April, 2021, 5 PM
Pre-bid meeting (Online) (MS Teams online meeting link will be sent to the prospective bidders, whose query will be received by the last date & time as above by email)	14 th April, 2021 at 11:00 AM
Last date & time of submission of bids	23 rd April, 2021 at 2:00 PM
Opening of Technical Bids	23 March, 2021 at 3:30 PM
Opening of Price Bids (Price Bids will be opened of only those bidders, whose technical bids will be declared qualified by the Technical Committee of IISc for the procurement. Decision of the Committee will be final and binding.)	30 th April, 2021 at 3 PM

Note: IISc will have absolute right to change a date / time.

16. Contact Details for this tender:

Prof. Partha S. Mukherjee,
Inorganic and Physical Chemistry Department Office
Indian Institute of Science, Bangalore-560012
Email ID: **psm@iisc.ac.in**

Technical Bid

Techno-Commercial Compliance Sheet - 1

Sl. No.	Eligibility Criteria	Fulfil this criterion (Yes / No)	Details and Proof Attached on page no.
1.	The bidder must be either Indian OEM (Original Equipment Manufacturer) or its authorized Indian distributors.		
2.	The bidder must have valid GSTIN. Valid certificates must be attached.		
3.	The vendor should have carried out installation of a value that is similar to the one being tendered. Related purchase orders should be produced along with the tender documents and contact of customers where the installations have been carried out should be given. Vendor must have minimum Rs. 50 Lakh turn over in the FY 2019-20.		
4.	Vendor must have at least 5 years of experience in supply and installation of ACs.		
5.	Vendor must quote for all line-items. (Price Bid must be in a separate sealed cover marked as Price Bid.)		

Technical Bid (BOQ)

Techno-Commercial Compliance Sheet – 2 (BOQ)

Details of Make / Model / Brand quoted (Only can be quoted by one vendor): -

Sl. no.	Item of work	Unit	Qty.	Make / Model / Brand (only one model should be clearly mentioned here)
1	Supplying of 5 STAR Inverter (Variable Speed) type 1.5 TR Split Air conditioners suitable for operation on A/C supply single phase 50 Hz 230 Volts with hermetically sealed compressor with air cooled condenser, motor capacitor and start run capacitors, relay and over load protector internal unit, with one indoor and one outdoor unit. The indoor and outdoor unit coils shall be made of copper material. The condenser unit will be placed outside the room on the existing MS stand to avoid noise. The unit shall include 3 Mtr. length of suitable size copper tubing covered with insulation tube, 3 core sheathed/ PVC copper cable of suitable size and a battery operated wireless remote unit. The AC unit shall have 2 years warranty period and the compressor shall have 10 years warranty period. (Make: Blue star /Hitachi/ Daikin/ Voltas/LG/Samsung)	Nos.	64	
2	Supplying of 5 STAR Inverter (Variable Speed) type 2 TR Split Air conditioners suitable for operation on A/C supply single phase 50 Hz 230 Volts with hermetically sealed compressor with air cooled condenser, motor capacitor and start run capacitors, relay and over load protector internal unit, with one indoor and one outdoor unit. The indoor and outdoor unit coils shall be made of copper material. The condenser unit will be placed outside the room on the existing MS stand to avoid noise. The unit shall include 3 Mtr. length of suitable size copper tubing covered with insulation tube, 3 core sheathed/ PVC copper cable of	Nos.	88	

	suitable size and a battery operated wireless remote unit. The AC unit shall have 2 years warranty period and the compressor shall have 10 years warranty period. (Make: Blue star /Hitachi/ Daikin/ Voltas/LG/Samsung)			
3	Installation charges for Split type air conditioners with allied works for one indoor and one outdoor unit is to be mounted on suitable Angle Iron / MS stand support for Split type A/C units. The suitable Angle Iron / MS stand support shall be provided by the vendor.	Each	152	
4	Supplying & filling refrigerant gas for extra copper refrigerent piping including labour charges & Nitrogen gas for pressure and leak testing etc.	Kg	152	
5	Supplying and installation of insulated refrigerant copper tubing of suitable size with polythene foam insulation and 3/4 core 4 Sq.mm PVC insulated copper wiring between indoor and outdoor unit.	Mtr.	450	
6	Supplying and installation of Timer control for cyclic operation of 2 Split type A/C units. In Logic One, only one AC is to be operated at a time and equal running of each AC is to be ensured during continuous operation. In Second logic, One or both ACs will run as per Demand. It should have built-in protection against UV, OV & OL for both AC units. (Make: Minilec PROTOCOM -4 model)	Each	60	
7	Supplying, erecting, testing and commissioning of 3 KVA voltage stabilizer suitable for 170 to 270 V in put and load variation from no load to full load, with over load protection, spike suppression, operating at 0° C to 40° C. Range etc., complete. (Make: V-Guard)	Each	152	

8	Supplying and fixing of metal industrial plug and socket of 2 pole and earth plugs, with 20 A SP MCB. The entire plug and socket shall be mounted in a thermoplastic / powder coated metal box & wired Completely. (Make: Havells/Legrand/ABB)	Each	152	
9	Supplying and fixing of 25 mm PVC casing and capping on the wall or ceiling using necessary materials like bends, screws at an interval of 300 mm etc. as required.	Mtr	900	
10	Providing grounding wire for AC circuit using 1.5 Sq.mm FRLS PVC insulated 1100V grade, multistrand Copper with low conductor resistance single core wire in the existing open or concealed system of wiring as per IS-694:1990.(Make: Havells/Polycab/Finolex)	Mtr.	1500	
11	Providing wiring for AC circuit using 4 Sq.mm FRLS PVC insulated 1100V grade, multistrand Copper with low conductor resistance single core wire in the existing open or concealed system of wiring as per IS-694:1990.(Make: Havells/Polycab/Finolex)	Mtr.	3000	

INDIAN INSTITUTE OF SCIENCE, BANGALORE

PRICE BID

(to be submitted by the bidder in separate sealed cover)

Name, GSTIN & Address of the Bidder:

Name of work : Supply, Installation, Testing and Commission of 152 Split AC units in the Chemical Science building in IISc, Bangalore.								
Important note: (1) The quantities mentioned in the BOQ are approximate. The vendor shall assess the quantity as per the site requirement and the measurements will be made as per actuals. (2) Turnaround time for any repairs during warranty period - Dedicated support number with a promised turn around for inspection of 24 hours or lesser (NOT business hours) and service time of 5 business days or lesser. (3) The bidder shall have proper Service Centre at Bangalore for quick service back up.								
Sl no.	Item of work	Unit	Qty.	Basic rate per unit	GST %	Total rate Per Unit i/c with GST	Total amount	Make / Model / Brand (only one model should be clearly mentioned here)
1	Supplying of 5 STAR Inverter (Variable Speed) type 1.5 TR Split Air conditioners suitable for operation on A/C supply single phase 50 Hz 230 Volts with hermetically sealed compressor with air cooled condenser, motor capacitor and start run capacitors, relay and over load protector internal unit, with one indoor and one outdoor unit. The indoor and outdoor unit coils shall be made of copper material. The condenser unit will be placed outside	Nos.	64					

	<p>the room on the existing MS stand to avoid noise. The unit shall include 3 Mtr. length of suitable size copper tubing covered with insulation tube, 3 core sheathed/ PVC copper cable of suitable size and a battery operated wireless remote unit. The AC unit shall have 2 years warranty period and the compressor shall have 10 years warranty period. (Make: Blue star /Hitachi/ Daikin/ Voltas/LG/Samsung)</p>							
2	<p>Supplying of 5 STAR Inverter (Variable Speed) type 2 TR Split Air conditioners suitable for operation on A/C supply single phase 50 Hz 230 Volts with hermetically sealed compressor with air cooled condenser, motor capacitor and start run capacitors, relay and over load protector internal unit, with one indoor and one outdoor unit. The indoor and outdoor unit coils shall be made of copper material. The condenser unit will be placed outside the room on the existing MS stand to avoid noise. The unit shall include 3 Mtr. length of suitable size copper tubing covered with insulation tube, 3 core sheathed/ PVC copper cable of suitable size and a battery operated wireless remote unit. The AC unit shall have 2 years warranty period and the</p>	Nos.	88					

	compressor shall have 10 years warranty period. (Make: Blue star /Hitachi/ Daikin/ Voltas/LG/Samsung)							
3	Installation charges for Split type air conditioner with allied works for one indoor and one outdoor unit is to be mounted on suitable Angle Iron / MS stand support for Split type A/C units. The suitable Angle Iron / MS stand support shall be provided by the vendor.	Each	152					
4	Supplying & filling refrigerant gas for extra copper refrigerent piping including labour charges & Nitrogen gas for pressure and leak testing etc.	Kg	152					
5	Supplying and installation of insulated refrigerant copper tubing of suitable size with polythene foam insulation and 3/4 core 4 Sq.mm PVC insulated copper wiring between indoor and outdoor unit.	Mtr.	450					

6	Supplying and installation of Timer control for cyclic operation of 2 Split type A/C units. In Logic One, only one AC is to be operated at a time and equal running of each AC is to be ensured during continuous operation. In Second logic, One or both ACs will run as per Demand. It should have built-in protection against UV, OV & OL for both AC units. (Make: Minilec PROTOCOM -4 model)	Each	60					
7	Supplying, erecting, testing and commissioning of 3 KVA voltage stabilizer suitable for 170 to 270 V in put and load variation from no load to full load, with over load protection, spike suppression, operating at 0° C to 40° C. Range etc., complete. (Make: V-Guard)	Each	152					
8	Supplying and fixing of metal industrial plug and socket of 2 pole and earth plugs, with 20 A SP MCB. The entire plug and socket shall be mounted in a thermoplastic / powder coated metal box & wired Completely. (Make: Havells/Legrand/ABB)	Each	152					

9	Supplying and fixing of 25 mm PVC casing and capping on the wall or ceiling using necessary materials like bends, screws at an interval of 300 mm etc. as required.	Mtr	900					
10	Providing grounding wire for AC circuit using 1.5 Sq.mm FRLS PVC insulated 1100V grade, multistrand Copper with low conductor resistance single core wire in the existing open or concealed system of wiring as per IS-694:1990.(Make: Havells/Polycab/Finolex)	Mtr.	1500					
11	Providing wiring for AC circuit using 4 Sq.mm FRLS PVC insulated 1100V grade, multistrand Copper with low conductor resistance single core wire in the existing open or concealed system of wiring as per IS-694:1990.(Make: Havells/Polycab/Finolex)	Mtr.	3000					
Grand Total Amount in Figures in INR (Rs.)								
Grand Total Amount in words in INR (Rs.)								

Note:

1. The quoted cost must include packing, freight, loading, unloading, installation, testing, commissioning and on FOR-IISc Bangalore basis.
2. All pages must be properly sealed (stamped) and signed by the bidder with name & date.
