

**NOTICE INVITING TENDERS
FOR
Supply, Installation, testing and commissioning of split Air Conditioning
Units at Pushpa Gujral Science City (PGSC), Kapurthala.**

Pushpa Gujral Science City (PGSC) is a Rs.100 Crores, joint venture of Govt. of India and State of Punjab. The Science City has been set up to promote the awareness for Science and Technology through interactive and non-formal way. The first phase has been completed. The work for the second Phase is in progress. For night stay of visiting students one Hostel (Dormitory) exists which is proposed to be Air conditioned. One structure containing working model of Volcano is also to be Air Conditioned.

PGSC invites item rate tenders in two parts, to get the work of supply, installation, testing and commissioning of split AC Units executed on turnkey basis, directly from **the reputed manufacturers of Room Air Conditioners or through their dealers, who should duly be authorized by them to quote for this particular tender.** The firm or its dealer authorized to quote for this tender must have proper and regular "After Sales Service" outlet preferably at Jalandhar / Kapurthala. However, availability of Service outlet at Amritsar / Ludhiana / Chandigarh can also be considered provided the tenderer gives an undertaking that No TA/DA/Out of Pocket Allowance shall be claimed by them for attending the complaints at PGSC, Kapurthala. The brief specifications are described in Schedule of Quantities (BOQ) which is also the prescribed Form for "Price Bid", attached herewith as Annexure III. Other terms and conditions of the tender and terms of payment are given in the conditions of the Contract at Annexure I: -

- Estimated Cost : Rs7.00 (Rs. Seven Lac Only)
- Time of Completion : Three (03) Calendar months including the mobilization period.
- Fixed amount of : Rs.14, 000/- (Rs. Fourteen Thousand Only)
Earnest Money payable by Demand Draft at any Scheduled bank at Kapurthala (Punjab) favouring Pushpa Gujral Science City.

- Cost of Tender Document : Rs.500/- (Non Refundable)
 - (i) To be paid in cash at below noted address, if it is purchased.
 - (ii) If Prospective tenderer downloads the Tender Document, he shall deposit Rs.500/- (Rs. Five hundred only) in cash with the office noted below, and attach the receipt of Payment to Part I of the Tender Bid.
 - (iii) Tender not purchased from this office or not accompanied with Cash Receipt issued by PGSC Chandigarh shall not be considered and it shall be rejected without opening Part II of the Tender Bid.

The tender shall be submitted in two parts Technical Bid & Commercial Bid as detailed below: -

- (a) The first part viz Technical Bid shall consist of the following:
 - (i) Earnest Money deposit in an envelope marked as 'Earnest Money Deposit'.
 - (ii) Cash Receipt for Rs.500/- deposited with PGSC in case Tender document is downloaded.
 - (iii) Tender documents i.e. Notice Inviting Tender, Annexure I and II-A, duly signed & stamped (each page).
 - (iv) Authorization from the Manufacturing Firm in favour of the tenderer , in case of authorized dealer of the Firm is quoting.**

All the documents (II to IV) to be placed in a sealed envelope and marked as Part I.

- (b) The Second Part shall consist of the Bill of Quantities viz "Price Bid" (Annexure III) to be placed in a sealed Envelope and marked as Part II: Commercial Bid.
- (c) Both the first part and second part shall be placed along with the envelope marked "Earnest Money Deposit" inside a third envelope

and marked as “Tender for Air-conditioning of Students Hostel/Volcano Building /Structure at PGSC Kapurthala.

The last date for the sale of Tender Documents is 26-03-2010. Tender papers as above, complete in all respects and addressed to the Administrative Officer at the below noted address are to be submitted so as to reach by **12.30 PM on 12-04-2010. Envelopes containing part 1 & EMD shall be opened at 12:30 on the same day and at the address noted below, in the presence of the** authorized representatives of the tenderers who may like to be present. The time for opening of the price bid shall be declared after the Scrutiny of Part 1. Price Bid of such tenderers whose tenders are found to be incomplete or not accompanying the DD for EMD shall not be opened and these shall be considered as rejected. **A pre bid meeting shall be held at 11:30 AM on 05-04-2009.** It would be appreciated if the prospective Tenderer submit in writing the point(s) to be discussed by them in the pre-bid meeting in advance so as to reach this office by 03-04-2010.

For any clarification the prospective tenderers can contact this office at telephone No 0172-5077072, 5077073.

(Trilochan Singh Giani)
Administrative Officer
Pushpa Gujral Science City,
SCO No. 60-61, 3rd Floor,
Sector 34 A , Chandigarh

Annexure I

Conditions of the Contract

- (01.00) Time of Completion : Three Calendar months commencing from the date of award of contract.
- (02.00) Earnest Money : **(i)** A fixed amount of Rs.14000/- (Rupees Fourteen Thousand Only) payable by D.D. favouring PGSC and payable at any scheduled Bank at Kapurthala (Punjab). The DD for this tender shall be submitted along with the Tender Bid. **The tenders without the DD for EMD shall not be considered.**
- (ii) Earnest Money deposited by an unsuccessful tenderer will be refunded after the tender is finalized, on application by the tenderer to PGSC. A tender once submitted shall not be withdrawn within a period of four (04) months from the last date of receipt of the tenders. In the event of the tenderers withdrawing his tender before the expiry of four months from the date fixed for receiving the tenders, the Tender would be cancelled and the Earnest money forfeited by PGSC. No interest can be claimed for the deposit of EMD which will be lying with PGSC.
- (03.00) Prices : The quoted rates and prices shall remain firm through out the contractual period including the extensions in time of Completion granted by PGSC, if any. The quoted prices shall be inclusive of all taxes, Govt. levies, Packing, loading / Unloading, freight, forwarding, Insurance (during transit and installation till it is handed over to PGSC), testing and commissioning. The tender being on "Turnkey Basis", the quoted price shall include the cost of any item(s) which are not specifically indicated in the schedule of Quantities / Price Bid but otherwise are required to complete the job in

totality and in all respect.

In case DGS&D' rate Contract for supply and installation of Split AC is awarded by DGS&D in favour of the tenderer and is valid on the last date fixed for submission of this tender for AC Units with specification given for this tender, then the same will be applicable and the same shall be considered for such a bidder for evaluation of the bidder and placing of the order if he becomes L-1. The rates for AC split Units shall be inclusive of interconnecting Refregrant pipes & electrical cable upto six (06) meters. If there is no valid R.C. on the last date fixed for the receipt of the tender bids, then whatever rate is quoted by the bidder shall be considered for evaluation of tenders. However for all other items the rates quoted by the tenderer shall be considered.

- (04.00) Payment Schedule : (i) 75% (Seventy Five Percent) of the contract value, shall be released on delivery and due installation of the AC Split Units along with all the associated items given in the Schedule of Quantities (Price Bid) including any other item which is required to "complete" the system.
- (ii) Further 15% (Fifteen Percent) of the contract value of these items, shall become payable on the successful testing, commissioning and handing over the A.C. Split Units.
- (iii) Balance 10 % of the Contract Value shall be released after the expiry of the Defect Liability period and / or warranty period. This amount can also be released after testing, commissioning and handing over of the A.C. System provided the Contractor furnishes a Performance Bank Guarantee.
- (05.00) Warranty : 15 (Fifteen) Calendar Months' warranty for

any manufacturing defect, after testing, commissioning and handing over.

- (06.00) Defect Liability Period : Any defects which may appear within 15 (fifteen) months from the date of commissioning and handing over the AC Split Units and / or the installation covered in the Contract, arising in the opinion of Engineer-in-Charge from AC Units, materials and / or workmanship not in accordance with the Contract, shall upon the directions in writing of the Engineer-in-Charge and within such reasonable time as shall be specified therein, be amended and made good by the Contractor at his own cost. In case of default, the PGSC may employ and pay other persons, to amend and make good such defects / faults at Contractor's cost.
- (07.00) Free Maintenance Period : The Contractor shall maintain and keep in thorough repair all the parts of the total work under this contract satisfactorily at his cost the whole work for a period of 15 (Fifteen) months after completion and handing over and if the Contractor shall at any time during the aforesaid period of Fifteen months fails to maintain and keep in thorough repairs the said work, PGSC may do so at the risk, expense and cost of the contractor.
- (08.00) Compensation for delay : The time allowed for carrying out the work as entered in the Tender shall be strictly observed by the Contractor (time being the deemed essence of the Contract on the part of the contractor) and the contractor shall pay as liquidated damages (not by way of penalty) an amount equal to one (01) percent per week or part of week subject to maximum Five (05) percent of Contract value.
- (09.00) Disputes : All disputes arising out of or in any way connected with this contract shall be deemed to have arisen in Kapurthala and only the Court in Kapurthala shall have the jurisdiction to determine the same.

- (10.00) Settlement of Dispute by Arbitration : If required, as per the provisions of the Indian Reconciliation and Arbitration Act 1996 or any statutory modification thereof, the dispute shall be referred to the sole Arbitration of the person appointed by the Chairman of the Governing Body of Pushpa Gujral Science City Society.
- (11.00) Extension of Time : If in the opinion of the Engineer-in-Charge, the completion of the work shall be delayed by any change of original design, or by the ordering the Engineer-in Charge, any altered modified, substituted or additional work, or by the ordering by the Engineer-in-Charge of any work to be omitted or by any strike, stand-out or lock-out of any workmen employed by the contractor or from any just cause not attributable to the Act default or omission of the contractor, the Director General may if in his discretion he shall think fit, either forthwith or at any latter time or from time to time notwithstanding that the prescribed or extended time for completion of the work has expired or that the work has been completed by writing under his hand, extend the time for the completion of the work to such date as he shall consider reasonable. Provided always, that unless the contractor makes a written application to the Engineer-in-Charge, at or before the time when the cause of the delay is occurring or about to occur or in the cause of "force majeure immediately thereafter and of which satisfactory proof must be submitted or unless the time is extended (whether such application has been made by the contractor or not), the prescribed time shall not be extended, notwithstanding delays from the foregoing or any other cause or whatsoever kind, subject nevertheless to the provision that any and every extension of time by DG, PGSC shall be deemed to be in full compensation and satisfaction for and in respect of any and every actual or possible loss, damage or injury sustained or sustainable by the contractor in respect of the cause or causes giving rise to such extension, and shall in like manner exonerate the employer from any claims or

demands on the part of the Escalation clause, for or in respect of the delay in respect of which any such extension of time shall have been made, but no further or otherwise, nor for any delay continued beyond the time mentioned in the writing authorizing such extension.

- General Conditions :
- i) The contractor shall specify the make, model and other technical detail of each of the item in particular the AC split units, being offered, in the letter accepting to the execution of this award of work.
 - ii) The contractor shall supply the technical literature, maintenance schedule and operation manual of the equipment for the record and reference of PGSC. This should be ensured to be complied, with the delivery of the equipment or with the submission of the invoice.
 - iii) The PGSC would prefer if the stabilizer is manufactured by the tendering company (Manufacturers of the AC Units) which has to be ISI marked and / or ISO-9001 certified, otherwise it shall be one of the Tenderer's approved make. but duly marked as ISI or ISO 9001 Certified.
 - iv) All the jobs and particularly the installation of flexible corrugated pipe will be done neatly maintaining the aesthetics and avoiding the sagging of the pipe.
 - v) The proposed layout of the copper pipes and location of each of outdoor units are required to be approved from PGSC before starting the actual installation.
 - vi) The rates for split-ACs shall be inclusive of interconnecting Refregrant Pipes and Electric Cable upto six meters is included in the rates quoted and accepted as above. Beyond, six meters the inter-connecting Refregrant pipe &

electrical cable between indoor and outdoor units shall be supplied by the contractor for which he will be paid as per rates approved in the Contract.

- vii) The ascertainment of prices for any “Extra” item/work not covered under the tender but specifically desired to be executed by PGSC shall be worked out as per rules/practice of PGSC.
- viii) There are two buildings/structures where the split type are to be installed viz (i) Student’s Hostel & (ii) Volcano.
- ix) The student hostel building where Indoor Units are proposed to be installed has a sloping roof supported / resting on corresponding sloping RCC beam(s). There is no false ceiling. The Indoor Split AC Units are proposed to be hung from the sloping beams with the help of suitable M.S. Clamps duly galvanized / painted. The clamps are to be designed & fabricated in such a way that all the Indoor Units in the dormitory hang horizontally. The clamps shall hold the Units securely so as not to allow any vibrations. The scope of this tender covers the design, fabrication, supply & installation to suit actual site requirements.
- x) The structure which houses the volcano has outer enclosure fabricated out of fiber glass. The inner enclosure has Pipe Supports/wooden walls on which indoor units have to be mounted with the help of suitable clamps/fixtures to be designed, fabricated & fixed by the contractor.
- xi) The tenderer(s) are advised to visit the site for acquainting themselves about the site conditions and the type of Clamps/ Mounting arrangement described above at (ix) & (x). They may Contact the Executive Engineer (Mobile No. 09815549669) to visit the Sites.
- xii) TEST CERTIFICATES
The tenderers MUST submit copies of the Test Certificates issued by

independent approved Lab, as required under the relevant ISS, with their bids without which, tender bid shall not be considered. Copy of the BEE's Certificate must also be furnished with the tender. The tenderers whose AC Units for the specifications of this tender are and/or were earlier on DGS&D' Rate Contract need not submit these certificates.

Annexure – II

ADDITIONAL REQUIREMENTS:

1. Air conditioners shall be suitable for 230V,50 Hz single phase AC supply, capable of performing the functions as Cooling, Dehumidifying, Air circulating and Filtering.
2. The air conditioners shall be fitted with hermetically sealed type suction cooled reciprocating or discharge cooled rotary compressor (as applicable), compressor unit operating on Refrigerant R-22 with suitable rated capacitor start electric motor. It shall be equipped with overload protection. These shall be mounted on resilient mountings for quiet operation. The compressor shall conform to IS: 10617 part (1)-1983(amdt. 1 & 2). Rotary compressor shall be of Matsushita/Hitachi/Toshiba/Carrier/STAM/LG or one the makes as specified in DGS&D's current rate contract and shall be covered by manufacturers test certificate and TTC to JISS or ASHRAE. The Air conditioner shall be STAR marked as per DGS&D's rate contract for Energy Efficiency.
3. **SERVICING:** Free servicing shall be providing for 15 months from the date of dispatch or 12 months from the date of installation of air conditioner which ever is earlier. Firm is also required to send service engineer at least 3 times during the warranty period.
4. Tenderers to give complete technical data as per Questionnaire attached for each item offered against the T/E separately.
5. The air conditioners shall be complete with automatic temperature control and cut-in and cut-out etc. for temperature range 16 degrees to 30 deg. C. The differential of the thermostat for cut-in and cut-out shall not be greater than +/- 1.75 deg. C. The air conditioners may either be provided with adjustable stepless type mechanical thermostat or electronic thermostat as per IS : 11338 : 1985.
6. The filter pads provided shall be washable.
7. The Cabinet of the evaporator unit and condensing unit shall be made from galvanised steel sheet of 1 .0mm thick with galvanised coating thickness of 120 gm / sq. mtr and shall be provided with stiffness for robust construction and shall have rounded corners, steel parts/front panel etc. shall have stove-enamelled finish preceded by undercoat of anti-corrosive primer paint phosphating and through cleaning of the surface. Alternate methods of corrosion protection like plastic powder coating, electrostatic painting are also acceptable in lieu of stove enamelled finish.
8. Overall power factor of the unit shall be at least 0.85 at capacity rating test conditions.

9. Maximum power consumption of the split air conditioners shall be at capacity rating test conditions.
10. Galvanised sheet shall conform to IS:277/2003.
11. Standard evaluation of cooling capacity shall be done by connecting indoor and outdoor units with piping of 5 mtrs. length with six bends of standard radius. Connecting copper tubing shall have dimensions suitable for the compressors offered model.
12. Refrigerant used shall be Freon-22.
13. The indoor units made of ABS/HIPS shall be of flame retardant and impact resistant life. ABS/HIPS indoor unit cabinet shall pass inflammability test requirement for Grade V-O as per UL-94. For impact resistance the unit duly packed, when dropped from a height of 1 mtr. Shall show no damage.
14. The tenders shall confirm that they will get two samples of each type of Split Air Conditioners type tested to the required ISS and R.C. requirement either at their works or at a place where facilities are made available by them and witnessed by Inspecting officer before offering the first lot for inspection. The tenderers shall also submit valid Type Test Certificates along with their offer.
15. Display shall be LED/LCD and provided on indoor unit or on Handset or on both. These displays shall be selectable.
16. Remote control (Cordless) shall be provided with one On/Off timer, selecting Fan speed (Three speeds) and setting up of temperature.
17. DETAILED SPECIFICATIONS for Installation of pipes, insulation and cables beyond 6 mtrs. if required, on per mtr basis (Schedule-2) :-----
 - I. Suction line copper pipe of 0.70mm thickness.
 - II. Liquid line copper pipe of 0.70mm thickness.
 - III. Expanded polyethylene foam insulation tubing for suction line copper pipe.
 - IV. Drain pipe (15mm dia flexible pvc pipe).
 - V. Suitable capacity 2 core PVC insulated copper wire 2.5 mm to electrically connect both the units with each other.
18. DETAILED SPECIFICATIONS For Installation Charges (SCHEDULE-3) :-
The installation at consignee's site shall comprise the following work:
 - I. Mounting / Fitting indoor & outdoor units at the respective locations.

- II. laying refrigerant piping of 6m length and connecting both the units after drilling hole/holes in the wall, if required. The thickness of the copper tubing shall not be less than 0.70mm.
- III. Insulating the suction pipe with expanded polyethylene foam 5mm tubing.
- IV. Laying 25 mm dia PVC PPR drain pipe to throw out the condensate water being formed in the indoor unit.
- V. Leak testing the entire system.
- VI. Charging Refrigerant gas in the unit.
- VII. Suitable electric wiring between indoor and outdoor units up to 6 mtrs. Length up to switch within 3 mtrs. of location of indoor unit. Switch/Socket/Plug are not included in the scope of supply.

Split AC

SPECIFICATION:

Split type air conditioners conforming to IS:1391(Part-2)- 1992 with amdt No.1 fitted with hermetically sealed air compressor operating on refrigerant R-22 and to be suitable for wall mounting or to be hung from the Beams/ Structural members with Technical specifications as under General Technical Requirements for AC Units & Interconnecting pipes and cables.

SPECIFICATION

Supply and installation of pipes, insulation and cables beyond 6 Mtrs, if required, on per Mtr basis as per specification requirements detailed under General Technical Requirements.

Installation Charges

Specification: The Scope of installation shall include installation at consignee's site as per requirements covered under General Technical Requirements.

Split AC with Rotary Compressor

SPECIFICATION

Split type air conditioners conforming to IS:1391 (Part-2) – 1992 with amdt No. 1, but fitted with Rotary compressor conforming to JISS or ASHRAE standards suitable for wall mounting & specifications as under General Technical Requirements.

Split Type A.C. with heating by Heat Pump

Specification: Split type air conditioners suitable for cooling as well as heating with heat pump conforming to IS: 1391 (Part – 2) – 1992 with amdt No. 1 fitted with hermetically sealed air compressor operating on refrigerant R-22 suitable for wall mounting & specs as under General Technical Requirements.

ANNEXURE II(a)

1. The ACs shall be suitable for operating on 230 Volts +/- 10 %, 50 Hz, single phase A.C supply capable of performing the following functions :
 1. Cooling
 2. Dehumidifying
 3. Air circulating
 4. Filtering
 5. Ventilation
2. The room Air Conditioners shall be fitted with hermetically sealed type section cooled reciprocating or discharged cooled rotary compressor (as applicable), compressor unit operating on Refrigerant R-22 with suitable rated capacitor star electric motor. It shall be equipped with overload protection. These shall be mounted on resilient mountings for quiet operations. The compressor shall conform to IS:10617 (Part – I) – 1983 (Re-affirmed 2007) incorporating amdt No. 1 & 2. Rotary compressor shall be of Matsushita/Hitachi/Toshiba/Carrier/SIAM/LG Make shall be covered by manufacturers test certificate and TTC or ASHRAE.
3. The cabinet of the air conditioner be made from either galvanized m.s.sheet of 1mm thickness or aluminium alloy sheet of 1.2 mm thickness. The sheets shall be suitably stiffened by embossing the fabrication work and shall be of suitable work phosphated and protected by powder coated paint.
4. The galvanized steel sheets shall conform to IS:277:2003 (Re-affirmed 2007) and have a coating grade of 120 gms/sq.metre.
5. The air filters provided shall be of cleanable type and synthetic make.
6. The air-conditioner shall be fitted with thermostat suitable for working range from 16 deg .C to 30 deg .C with a differential of +/- 1.75 deg .C with 240 V operation and current rating not exceeding 25 amps. The thermostat shall conform to IS:11338:1985. The firm shall declare the

make and model of the thermostat. The thermostat shall either be adjusted stepless type or electronic.

7. The overall power factor of the unit shall be 0.9 at capacity rating test conditions.
8. Cooling Capacity of Compressor shall be as under :--
 - a. For 1.5 Ton A/C : 4750 K.cal./hr
 - b. For 2.0 Ton A/C : 6250 K.cal./hr
 - c. Energy Efficiency Ratio for compressor shall be 2.625 K.cal./hr/watt. (Min.)
9. The manufacturer's instructions and operational service, installation manual shall be provided to the consignee/indenter.
10. In case there is no change in tech. specification as compared to earlier R/Cs, Type Test shall be conducted on 2 Nos Air conditioners of each capacity within two months from the date of award of Rate Contract.
11. All production routine tests shall be carried out as acceptance tests. The performance of individual unit shall not be less than permissible variations given to power consumption, minimum air delivery and minimum cooling capacity.
12. Pre- despatch inspection of store shall be reported as per Inspection Report Proforma No. – MECH 222 (R). A copy of proforma is enclosed.
 - 12.1 Remote control (cordless) with LCD Display shall be provided with one ON/OFF timer, selecting fan speed & setting up of temp.
13. The tenderer shall confirm that they will get two samples of each type of "Room Air Conditioners" type tested to the ISS & R/C requirements either works or at a place where facilities are made available by then and witnessed by Inspecting Officer before offering the first lot for inspection. The tenderers shall also submit valid type test certificates along with their offer. Also, a copy of Govt. T/Report containing detailed design, make & model of all components, lay out drawing, constructional details duly certified & signed by BEE & BEE star rating approval certificate in case of star rating products.
14. Additional Specifications for Star rating Air Conditioners.
 - A. For Star rating Air Conditioners the store should be tested as per IS 1391 (Part- 1) with amdt. No. 1 to 3. Further the offered lot shall be verified with respect to Lab Report Pertaining to detailed Design, make and Model of all components, specifications, layout drawing and constructional details certified and signed by BEE so as to establish that there is no change in the offered lot with respect to the samples for

which the certified and signed Govt. Lab report and BEE approval is given.

B. Tolerance Limit :

1. For each unit tested, the measured capacity shall be > 0.95 of the rated value.
2. For each unit tested, the measured energy consumption shall be < 1.05 of the rated value.
3. For each unit tested, the EER shall be > 0.95 of the rated value EER.

C. Each unit shall be tested with sufficient test runs to enable, a valid EER to be determined for that unit. The results shall be recorded in the "Format of test results" attached.

D. Rounding:

1. Unless otherwise stated, the number shall be rounded and recorded to five significant figures. The value of capacity (KW) shall be rounded and recorded to three significant figures.
2. The value of energy consumption (w) shall be rounded of (< 0.5 to lower whole number and ≥ 0.5 to the higher whole number).
3. The value of EER (W/W) shall be rounder and recorded to two significant figures.

E. Table 2.1 (of EER specification) for star rating band valid for 01 January 2007 to 31 December 2007.

STAR RATING	EER (W/W)	
	Min.	Max.
1 Star	2.30	2.49
2 Star	2.50	2.69
3 Star	2.70	2.89
4 Star	2.90	3.09
5 Star	3.10	-----

E. Labels : Labels shall be designed and placed on units color scheme and marking as per BEE specifications.

Room Air conditioners – Unitary type

Specification :

Window mounted type Room Air conditioners conforming to IS.1391(part-1) :1992 (Reaffirmed) with amdt. 1 to 3 and additional parameters as given under General Technical Requirements.

Annexure – III**SCHEDULE OF QUANTITIES
(BILL OF QUANTITIES)
&
PRICE BID**

Sr. No.	Item	Qty.	Unit	Unit Rates including taxes and other levies (Rs.)	Total Cost (Rs.)
1.	Supply at PGSC, Kapurthala, (Punjab) of split type (technical Specifications as per DGS&D Rate Contract which was operative & valid through 2009 and as mentioned at Annexure II & II (a) 02 TON Air conditioner (ABS Plastic for Wall mounted Indoor Units), Cooling Capacity (K Cal/Hr) 6250, Power consumption Max. 2650 Watts, Minimum room discharge Airflow (cum/Hr) 800, guaranteed cooling capacity (min) K Cal/Hr): 5500, including 6 meters of interconnecting cable and refregent Copper Pipes as per Specifications, BEE three star rated.	16	Each		
2.	Installation of Single Split AC Units (2.00 Ton)	16	Each		
3.	Voltage Stabilizer 5 KVA rating suitable for 2 Tr Split Ac units with over current & under voltage protection. (The input voltage is 230V \pm 10 % AC 50 c/s)	16	Each		
4.	Supply & installation including the requisite insulation of copper pipes (suction line + liquid line) as per DGS&D's	50	Meter		

	specifications				
5.	Mild steel stands duly primer & paint coated for the out door units of 2 Tr capacity.	16	Each		
6.	Supply & installation of 25 mm dia PVC PPR pipe to be concealed or to be laid as per site required as may be decided by Site Engineer	50	Meter		
7.	Supply & installation of PVC batton of suitable size / capacity to take copper pipes and PVC water disposal pipe (item No. 6 & 9 above), as per site requirements	100	Meter		
8.	Design, Fabrication, Supply of MS Clamps complete with Nuts, Bolts, Spring / Lockable Washers duly galvanised / painted for hanging of Indoor Units from the slopping roof beams as per site requirements.	16	Set of Fixure for each AC Unit.		
9.	Total				
10.	Annual Maintenance Contract after the expiry of the warranty period for next two years.				