

GENERAL TERMS & TECHNICAL SPECIFICATION FOR HVAC WORKS

1. The contractors who have executed works of similar nature and magnitude are eligible to apply.
2. The contractor/agency will engage suitable qualified/experienced/ licensed engineering supervisor for the work and suitable skilled personnel for doing the erection work. The firm shall be liable to submit the list of such personnel along with the copy of experience & qualification at the time of execution. Required special tools to be operated in the execution of the job.
3. The rates are to be inclusive of all taxes, levies, insurance, freight, octroi etc. except service tax which will be reimbursed by the department, in full, on presentation of receipted original deposit slip, against the work. Nothing extra will be paid.
4. The works will be executed to comply with the CPWD General Specifications for HVAC Works 2014
5. The work shall be executed as per specifications, scheme, general arrangement drawing and detailed fabrication drawings duly approved by the Engineer-in-charge. The various items of equipment will be ordered only after the drawings are approved and quantities in detail of various items are ascertained as per actual requirements. Therefore the actual quantities / measurement may vary from the stipulated quantities, which are only estimate.
6. The work will be performed as per the day to day instruction and approval of the engineer-in-charge. All materials/ equipment will be used after taking approval of the Engineer-in-charge/PMC.
7. The work will be executed as per the programme of completion of the project. The delivery & erection schedule of various materials/ equipments will be as per approval of Engineer-in-charge.
8. The contractor shall have to make arrangements, at his own risk and cost, for transportation of materials from the point of issue of stores to site of work, if any. It's the duty of contractors to verify, all material collected from Department store presence of concern persons before transport.
9. All materials for the work shall be supplied from approved list of manufacturer and any item, not covered in approved list, shall be supplied after getting approval from PMC/ Engineer- in-charge or his authorized representative.
10. Any materials brought for work which is not matching with specification will be rejected and the rejected materials shall be removed from site on the same day.

11. Test certificates shall be furnished along with supply for all Electrical/Mechanical items.
12. The contractor can visit the site and assess the nature and quantities of work involved for successful completion of work in time, on all working days between 10.00 Hrs. to 16.00 Hrs. before submitting the tender. After submission of tender no claims in this regard will be considered.
13. This contract holds the contractor responsible for the entire job as per relevant CPWD specifications. If any item is left out within the schedule of work but if it is considered essential for the completion of the job, the contractor has to carry out the items as extra / substituted item.
14. For all installation works nuts, bolt, washer, screws, PVC/steel fastener, wire lug, and other accessories required for completion of work shall be in contractor's scope without any additional charges.
15. For all items Contractor has to complete all associated minor civil work/cleaning for making good as per direction of engineer in charge without any additional charges.
16. Any damage to the component/equipment/material due to mistake from the part of contractor has to be rectified/ replaced by the contractor as per the direction of Engineer in charge without any additional charge.
17. Contractor shall have to check the site order Book for any instructions of PMC/Engineer-in-charge or his authorized representative and sign the site order book. He shall be bound to ensure compliance with the instructions recorded there in.
18. Contractor has to do the work in co-ordination with other contractors, agencies, and systems as required and as directed by the engineer in charge.
19. All necessary equipment for testing and commissioning shall be arranged by the contractors without any additional charges.
20. The items of work shall be executed as per detailed technical specifications and scheme. In case of contradiction between schedule of work with its Additional Specification and the General Specification, the former shall prevail
21. General arrangement/Shop drawing shall be get approved from the by PMC/ the Engineer-in-Charge before commencement of manufacturing.

TECHNICAL SPECIFICATIONS

HI-WALL INVERTER SPLIT AC

Supply of High wall mounted indoor unit and powder coated outdoor unit, fitted with hermetically sealed suction cooled rotary/scroll type energy efficient compressor suitable for operation on 220V, 1Ph, 50Hz AC supply and conforming IS:1391 (part-I/92) with latest amendments. The units shall be inclusive of all standard accessories like power & control cables. Good quality copper tubing of Min. 3Mtr length for refrigerant lines, Elastomeric Nitrile Rubber insulation, drain piping etc.

The Unit shall have following features:

- i) Pre-treated galvanised sheet, powder coated body parts for condensing unit and out cabinet. It shall be fitted with copper coiled condenser with anti-corrosive protection.
- ii) Indoor units shall be fitted with copper cooling coil preferably with anti-corrosive protection.
- iii) Guarantee/warranty for one year for the whole system and five year warranty on compressor and inverter board from the date of installation/acceptance.
- iv) Hand held wireless remote for setting Temperature, on time, off time, power saving mode, auto restart facility, memory backup, programmable timer etc, with real time clock.
- v) Low noise level of 45dBA in AC area, Vendor shall furnish the noise level of the units offered.
- vi) Burst proof capacitor
- vii) Allowable distance between indoor unit and outdoor unit shall be maximum and not more than 15mtrs and the units shall be delivering the designed capacity at this condition.

8.0. CASSETTE TYPE INVERTER SPLIT AC

Supply of Ceiling mounted indoor unit and preferably with powder coated outdoor unit, fitted with hermetically sealed suction cooled rotary/scroll type energy efficient compressor suitable for operation on 220V, 1Ph, 50Hz AC supply and conforming IS:1391 (part-I/92) with latest amendments. The units shall be inclusive of all standard accessories like power & control cables. Good quality copper tubing of Min. 3Mtr length for refrigerant lines, Elastomeric Nitrile Rubber insulation, drain piping etc.

The Unit Shall have following features:

- i) Pre-treated galvanised sheet, powder coated body parts for condensing unit and out cabinet. It shall be fitted with copper coiled condenser preferably with anti-corrosive protection.

- ii) Indoor units shall be fitted with copper cooling coil preferably with anti-corrosive protection.
- iii) Guarantee/warranty for one year for the whole system and five year warranty on compressor and inverter board from the date of installation/acceptance.
- iv) Hand held wireless remote for setting Temperature, on time, off time, power saving mode, auto restart facility, memory backup, programmable timer etc, with real time clock.
- v) Low noise level of 45dBA in AC area, Vendor shall furnish the noise level of the units offered.
- vi) Burst proof capacitor
- vii) Allowable distance between indoor unit and outdoor unit shall be maximum and not more than 15mtrs and the units shall be delivering the designed capacity at this condition.

Special Notes:

1. All the party should submit the Equipment rating chart at different temperature / outside condition.
2. Compressor rating chart should be submitted along with tender for proper technical evaluation of the capacity offered.
3. Vendor should submit the technical Data Sheet & Shop drawing within 15 days from date of issue of order for necessary approval by consultant before physically start the work at site.
4. After Commissioning vendor should conduct performance testing of the entire system for 72 hrs.
5. Vendor should submit the complete operation & maintenance manual containing As Built Drawing, Do's & Don't, Operation procedure, Set points of different parameters, Catalogue & Technical details etc.

LIST OF APPROVED MAKES

SL.NO	ITEM	NAME OF BRAND / MAKE
1	HI-WALL INVERTER TYPE SPLIT AC	VOLTAS/ BLUESTAR/ HITACHI/ CARRIER/PANASONIC
2	INVERTER TYPE CASSETTE SPLIT AC	VOLTAS/ BLUESTAR/ HITACHI/ CARRIER/PANASONIC
4	SOFT COPPER PIPE	MEXFLOW/ MANDEV/ TOTAL LINE OR AS RECOMMENDED BY ENGINEER IN CHARGE
5	PVC PIPE AND FITTINGS	SUPREME/ FINOLEX/KELACHANDRA
6	NITRILE RUBBER INSULATION FOR SOFT COPPER PIPE	TOTAL LINE/SUPREME

NOTE: THE CONTRACTOR SHALL QUOTE HIS RATES ON THE BASIS OF THE PRICE OF BEST QUALITY PRODUCT OF THE BRAND / MAKE. IN CASE ANY PARTICULAR BRAND OF ITEM IS NOT ACCEPTABLE TO THE CLIENT, THE CONTRACTOR SHALL SUPPLY ITEMS OF OTHER APPROVED BRANDS AT NO EXTRA COST.

