

BHARAT SANCHAR NIGAM LIMITED

भारत संचार निगम लिमिटेड

(A Govt. of India Enterprise)

(भारत सरकार का उपक्रम)

O/o Executive Engineer (E), Electrical Division, 1st Floor Block No. 35 Kasumpati Shimla-171009

कार्यालय आधिशाषी अभियंता (विद्युत) भारत संचार निगम लिमिटेड ब्लॉक न. ३५ शिमला

No:-69/EE/E/BSNL/ED./SML/2019-20/34

Dated:- 25.04.2019

Notice Inviting Quotation

The Executive engineer (Elect) BSNL, Electrical, Division, 1st Floor Block No.35 Kasumpati Shimla-171009 invites the sealed quotation for the work name mentioned below. The quotations must reach on **03.05.2019** up 15.00 Hrs.at this office & will be opened on the same day at 15.30 Hrs. The nature of job and quantum of work has been explained in the schedule given below. The quotations can be downloaded from www.hp.bsnl.co.in

Name of Work: - Construction of Block 'C' & 'F' of ABV Govt. Institute of Engineering & Technology at Pragati Nagar Distt. Shimla (HP) (Sh: SITC of 1.5 TR Inverter type Split Air Conditioner Units).

S.No.	Description of item	Qty		Rate	Unit	Amount
	-					
1	Supply of 1.5 TR inverter type split AC unit having minimum 5 Star BEE rating, with rotary compressor of make Matsushita/ Hitachi/ Toshiba/ Carrier/ Emerson/ LG /Tecumseh/ Danfoss (operating on non-CFC refrigerant R-410A); suitable for working on single phase, 50 Hz, A.C. power supply complete with all standard accessories, refrigerant piping, drain piping (up to the length of 5 meters) including transportation etc. complete as required as per specifications attached. (NOTE: - The unit must have copper tubing for evaporator & condenser coils.)	2	Jobs		Job	

2	Installation, Testing and commissioning of 1.5 TR inverter type split AC unit along with the copper piping, 63mm dia PVC flexible pipe, wiring up to the standard length of 5 meters (supplied as under Item.1) including gas charging with R-410A, insulation and making opening in wall and making good the damages etc. complete as required at site.	2	Jobs		Job.	
3	Supplying and fixing of powder coated heavy duty Wall mount iron bracket for outdoor unit of the above AC i/c providing necessary hardware etc. complete as required.	2	Jobs		Job.	
4	Supplying and fixing of MS iron stand made of 35x35x5 mm. angular for mounting outdoor unit of the above AC i/c cutting, welding, grouting, painting and minor civil works etc. as required (to be provided wherever wall stands are not feasible).	2	Kgs.		Kg	
5	Providing and fixing additional copper piping (incoming & outgoing) suitable for the above AC unit, over and above 5 meters length (where ever required) including insulation, gas charging, 63mm. dia flexible PVC pipes etc. as required.	2	Meters		Mtr.	
6	Providing and fixing 20mm. dia PVC pipe for drain water arrangement for the above AC unit including bends, elbows complete as required.	2	Meters		Mtr.	
(a)	Providing and fixing additional 3x2.5 Sqmm. PVC insulated copper conductor cable, over and above 5 meters length suitable for the above AC units (where ever required) including terminations etc. as required.	2	Meters		Mtr.	
					Total =	

SPECIFICATIONS FOR 1.5 TR INVERTER TYPE SPLIT AC UNITS

Technology	Variable speed compressor motor
Nominal Capacity (Tr)	1.5 Tr
Star Rating -	as per BEE 5 Star
(Rated) Voltage / Frequency / Phase	230 V / 50Hz / Single
Cooling Capacity (Min~Max) (Watt)	5150 (5905~5500)
Rated Cooling Capacity (50% Load) (Watt)	2720
Cooling Power Input (Min~Max) (Watt)	1405(479~2139)
ISEER	4.75
Compressor Type	Inverter Rotary
Refrigerant	R410A
Acoustic Jacket on Compressor	Yes
Ambient Temp (Cooling)°C	50°C

1 CONSTRUCTION

1.1 General

- 1.1.1 The air conditioner and its parts shall be constructed with the strength and rigidity adequate for normal conditions of handling, transport and usage.
- 1.1.2 There shall be no sharp edges or corners liable to cause injury under normal conditions of use and all moving parts which constitute accident hazards shall be effectively guarded.
- 1.1.3 Parts which require periodic servicing shall be readily accessible.

1.2 Material

- 1.2.1 Materials used in the construction of cabinet, front panel etc. shall comply with the corresponding Indian Standards wherever applicable except where such requirements are modified.
- 1.2.2 The material shall be free from defects which are liable to cause undue deterioration or failure.
- 1.2.3 Under normal conditions of use and maintenance, the materials used shall not shrink, deteriorate, warp or cause mould or odours and shall be resistant to attack of vermin and destructive pests.
- 1.2.4 Sealing and insulating material shall not lose their essential properties such as adhesion, moisture and heat resistance.
- 1.2.5 Internal and external finishes shall be capable of being cleaned effectively without undue deterioration and shall be such as to afford protection against climatic action in all seasons under normal use. All metal parts which are exposed to moisture or ambient conditions shall be corrosion resistant or adequately protected against corrosion.

2 Refrigerant Circuit

- 2.1 The refrigerant pipes and fittings shall be of approved quality and shall withstand normal working pressure of air conditioners and should conform to IS 10773:1983 or equivalent national standard / international standard.
- 2.2 The refrigerant used shall be chemically pure, free from moisture or any other chemical contamination.
- 2.3 The condenser and evaporator coils shall be made of copper.

3. Electrical Ratings

- 3.1 Ratings in watts for split air conditioners shall be based on standard voltage which shall be 230 V, single phase, 50 Hz, the units, however, shall be capable of working at any voltage within ± 10 percent of the of the standard voltage.

4 Rating and Test Conditions

4.1 Capacity rating test conditions

The split air conditioner shall have nameplate rating determined by tests conducted at the standard rating conditions specified below:

Room air temperature:

- a) Dry bulb 27° C
- b) Wet bulb 19° C

Outside air temperature:

- a) Dry bulb 35° C
- b) Wet bulb 30° C

Test voltage	Rated voltage
Test frequency	Rated frequency

NOTES

- 1. If rated frequency is not available, the capacity measured shall be corrected by a correction factor depending upon frequency actually measured during the testing.
- 2. Percentage drop in frequency shall be applied as percentage drop in voltage for power consumption.
- 3. The pipe length between Indoor unit and outdoor unit shall be 5 m when laid horizontally.

4.2 Maximum Operating Test conditions

The maximum operating tests shall be conducted under the conditions specified below:

Room air temperature

- a) Dry bulb 35° C
- b) Wet bulb 24° C

Outside air temperature

- a) Dry bulb 46° C
- b) Wet bulb 27° C

Test frequency	Rated frequency
Test voltage	90 percent and 110 percent of nameplate rating

5. Air conditioners shall be capable of performing the functions as cooling, dehumidifying, air Circulating and filtering. The Air conditioners shall be provided with adjustable step less type electronic thermostat.
6. Outdoor unit of the air conditioners shall be fitted with discharge cooled type rotary compressor operating on Refrigerant non-CFC refrigerant R-410A with suitably rated variable speed motor. It shall be equipped with overload protection and shall be mounted on resilient mountings for quiet operation. The Rotary compressor shall be of Matsushita/Hitachi/ Toshiba/ Carrier/ Emerson/ LG /Tecumseh/Danfoss make and shall be covered by manufacturers test certificate and Type Test Certificate according to JIS or ASHRAE.
7. Remote cordless control with LCD/LED Display shall be provided with one On/Off timer, selecting Fan speed (three speed) and setting up of temperature. Display shall be provided on indoor unit or on handset or on both.
8. Air conditioners shall be provided with standard 5 Meters refrigerant Cu pipe, electrical wire and drainage pipe.
9. The indoor unit shall be provided by washable anti-bacterial and dust filters.
10. Type Test Certificate for two samples of each type/model of Air conditioners from any NABL/ILAC Accredited laboratory shall be submitted by the firm. The type test results shall include capacity test at standard rating test conditions and maximum operating test as specified in IS: 1391(Part-2)-1992.
11. Servicing: Free servicing shall be provided for 15 months from the date of supply or 12 months from the date of installation of air conditioner whichever is earlier. Firm is also required to send service engineer at least 3 times during the warranty period.
12. Manufacturer's Guarantee: **The Compressor shall have minimum 5 years warranty from the date of supply.** The manufacturer shall give a guarantee for the soundness of construction and performance of the air conditioner and shall be responsible for putting right any manufacturing defects free of charge for a period of 15 months from the date of supply or 12 months from the date of installation of air conditioner, whichever is earlier.
13. Installation: The installation charges shall include the following work:-
 - i) Mounting/Fitting indoor and outdoor units at the respective locations.
 - ii) Laying refrigerant piping of required length and connecting both the units after drilling hole/holes in the wall, if required.
 - iii) Leak testing of the entire system.
 - iv) Charging Refrigerant gas in the unit.
 - v) Suitable electric wiring between indoors and outdoors units of required length up to switch at location of indoor unit. Switches/ Sockets /Plugs are not included in the scope of supply.
14. Inspection :
Quality inspection certificate/ Routine test certificate of the Inverter Split AC units shall be submitted at the time of supply.

Note:-

1. The work shall be done as per the specification of department.
2. The work shall be supervised by the qualified Engineer-in-charge or his duly authorized representative at the site of work.
3. The layout of the work will be given by the Engineer-in-charge or his duly authorized representative at the site of work.
4. Any damage done to the building by the contractor during the execution of work shall be made good by the contractor at his risk and cost, if the damage are not made good by the contractor in reasonable time determine by the Engineer-in-charge the same will be got done at his cost departmentally after serving notice to him.
5. No extra payment will be made for any kind of transportation.
6. The rates quoted should be inclusive of all taxes & duties and GST.
7. Time allowed for completion of work shall be **15 Days** from the date of actual handing over

Executive Engineer (Elect)
BSNL Electrical Division
Shimla

NIO:

Copy to: -

1. All Enlisted Contractor & BSNL HP Web Site www.hp.bsnl.co.in
2. CE (E), BSNL, EZ, Shimla for information please
3. SDE (E) BSNI, ESD ,Shimla for information pl