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भारतीय प्रौद्योगिकी संस्थान, दिल्ली



INDIAN INSTITUTE OF TECHNOLOGY, DELHI



हौजखास, नई दिल्ली - 110016, HAUZKHAS, NEW DELHI-110016
निर्माण विभाग WORKS DEPARTMENT
दर आमंत्रण सूचना
NOTICE INVITING QUOTATION

द.आ.सू.सं : भा.प्रौ.सं.दि./सं.अ./NIQ NO : IITD/IE/ 795	द.आ.सू. तारीख NIQ DATE 17-2-2012	दर सूची खोलने की तारीख OPENING DATE OF NIQ 16-3-2012
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स्थानिक अभियन्ता (IITD/IE/EE(E)/A/C/2012) संस्थान में निम्नलिखित सामग्री की आपूर्ति हेतु प्रामाणिक फर्मों/व्यापारियों से मोहरबन्द दर सूची आमन्त्रित करते हैं
Resident Engineer (EE(E)) Invites sealed quotations from the genuine firms / dealers for the material given below required at this Institute :-

विषय / Sub E.E.(E) Procurement of Split Type AC

क्रम सं. Sl. No.	वस्तु का नाम तथा पूर्ण विवरण Name of article & full specification	ईकाई Unit	मात्रा Quantity
1	SUPPLY OF 1.5 TR SPLIT TYPE AIR-CONDITIONERS FIVE STAR RATING	no.	100.000
2	SUPPLY OF 2.0 TR SPLIT TYPE AIR-CONDITIONERS FINE THREE STAR RATING	no.	42.000

1.Rates are inclusive of all taxes.2. Details as enclosed.3. F.O.R. at IIT,Delhi.
Specifications as enclosed with NIQ (Annexure I to Annexure IV)

Note: Payment within 30 days after delivery
& submission of bill. E.Money of Rs.96,000/-
in 3/0 I.I.T Delhi may submitted along with quotation.

टिप्पणी : निबंधन एवं शर्तें दूसरी तरफ दी गई हैं।
NOTE : THE TERMS & CONDITIONS OVERLEAF

बयाना राशि :
Earnest Money : Rs. 96,000/- in favour of I.I.T Delhi

दर सूची खोलने की नियत तारीख को अपराह्न 2.30 बजे तक दर सूचियां प्राप्त की जाएंगी तभी उसी दिन अपराह्न 3.00 बजे दर सूचियां खोली जाएंगी। दर सूची प्राप्त करने की नियत तारीख को अपराह्न 2.30 बजे के पश्चात प्राप्त दर सूचियों को अस्वीकृत किया जा सकता है।
The quotation will be received upto 2.30 p.m. and opened at 3.00 p.m. on due date of opening. Quotations received after 2.30 p.m. on due date are liable to be rejected.

सेवा में, हमारे पास सूचीबद्ध सभी फर्मों
सहायक स्थानिक अभियन्ता (E.E.) सहायक कुलसचिव (लेखा)/उप कुलसचिव (लेखा)
स्थानिक अभियन्ता (E.E.) तथा संस्थान अभियन्ता
To: All the firms enlisted with us F.E.
A.R.E. []/AR/D.F. (Accounts)
R.E. () & I.E.
E.E. ()

Head CSC for web site publicity
iitd.ac.in

अधीक्षक, निर्माण Superintenden Works
भारतीय प्रौद्योगिक संस्थान
INDIAN INSTITUTE OF TECHNOLOGY
हौज खास, नई दिल्ली-110016
Hauz Khas, New Delhi-110016

निबन्धन एवं शर्तें TERMS & CONDITIONS

- (1) विक्री कर :
(क) फर्म को विक्री कर प्राधिकरण में पंजीकृत होना चाहिए ।
(ख) लिखए : (i) विक्री कर पंजीकरण संख्या ।
(ii) विषयगत मद / मदों के लिए विक्री कर का प्रतिशत ।
- (2) बयाना राशि :
(क) भारतीय रिजर्व बैंक द्वारा प्रत्याभूत अनुसूचित बैंक की मांग प्राप्त पर जमा राशि जो "भा. प्रौ. सं. दिल्ली" को देय है ।
(ख) बिना बयाना राशि (जहां लागू होता हो) के प्रस्ताव को स्वीकार नहीं किया जाएगा । बैंक स्वीकार्य नहीं होंगे ।
(ग) दर सूची खोलने के बाद तथा आपूर्ति आदेश जारी होने से पहले यदि फर्म / एजेंसी प्रस्ताव को वापिस लेना चाहता है अथवा दर सूची में कोई परिवर्तन करना चाहता है जो कि संस्थान को स्वीकार्य नहीं है तो बयाना राशि का 50 प्रतिशत भाग जब्त कर लिया जाएगा परन्तु आपूर्ति आदेश जारी कर देने के पश्चात प्रस्ताव में कोई भी परिवर्तन करने अथवा उसे वापस लेने की अनुमति नहीं होगी । ऐसे हालात में पूरी बयाना राशि जब्त कर ली जायेगी ।
- (3) फर्म द्वारा लिखित दरे दर सूची खोलने से स्पष्ट 45 कार्यकारी दिनों तक वैध रहेगी ।
- (4) केवल दर सूची नोटिस में दी गई इकाई में ही दरे लिखे ।
- (5) शर्तबन्ध दर सूची स्वीकार्य नहीं होगी । छूट (यदि कोई हो) देकर शूद्ध रूप में लिखें ।
- (6) माल की सुपूर्दगी और बिल प्रस्तुत करने पर भुगतान की व्यवस्था की जा सकती है ।
- (7) नमूना : जिस मद का नमूना मांगा गया हो उसकी व्यवस्था की जाये तथा दर सूची के साथ भेजे ।
- (8) भा. प्रौ. सं. प्राधिकारियों का बिना कारण बताये किसी भी या सभी दर सूचियों अस्वीकार करने तथा उन्हें आंशिक रूप में स्वीकार करने अथवा निम्नतम दर सूची को भी अस्वीकार करने का अधिकार सुरक्षित है ।
- (9) दर सूची के मोहरबन्ध लिफाफे पर स्पष्ट रूप से निम्नलिखित बातें अवश्य अंकित करें :-
(क) दर सूची नोटिस की संख्या एवं तारीख ।
(ख) दर सूची खोलने की तारीख ।
(ग) प्रस्तुत विषयगत सामग्री का नाम ।
(घ) फर्म का नाम ।
(ङ) बयाना राशि का संदर्भ ।
लिफाफे पर उपर्युक्त सूचना के अंकित न होने की स्थिति में फर्म का प्रस्ताव, दर सूची पर विचार नहीं किया जाएगा ।
- (10) प्रस्ताव :
स्थानिक अभियन्ता, [] (विभाग का उल्लेख करें)
भारतीय प्रौद्योगिकी संस्थान के नाम भेजें ।
1. **SALES TAX :**
(a) Firm should be registered with Sales Tax Authorities.
(b) Indicate : (i) Sales Tax Registration Number.
(ii) Percentage of Sales Tax for the subject item(s).
2. **EARNEST MONEY :**
(a) Through Deposit call Receipt Pay order / Bankers cheque of schedule bank guaranteed by R.B.I. and drawn in favour of "I.I.T. Delhi."
(b) Offers without Earnest Money (wherever applicable) shall not be considered. Cheques will not be accepted.
(c) After opening of the quotations if any firm / agency wants to withdraw the offer or desires to make any change in the quotation which is not acceptable to the Institute before issue of the Supply order 50% of the earnest money shall be forfeited. But after the issue of the supply order, no change or withdrawl shall be permitted. In such an event, full earnest money shall be forfeited.
3. The rates quoted by the firm shall be valid for a period of clear 45 working days from the date of opening of the Quotations.
4. The rates must be quoted Only in the Unit given in the Quotation Notice.
5. Conditional Quotation will not be accepted. The rates should be Net after giving discounts, if any.
6. **Payment can be arranged against delivery of material & on production of bill.**
7. Samples : Samples where asked for, shall be made available & sent along with quotations.
8. Authorities of IIT reserves the right to reject any or all the quotations or accept them in part or to reject the lowest quotation without assinging any reason.
9. The sealed cover (envelop) of the quotations must clearly bear the under noted points : -
(a) Number and date of Quotation Notice.
(b) Opening date of the quotations.
(c) Name of the subject material offered.
(d) Name of the firm.
(e) Reference of Earnest Money.
In the absence of the aforesaid information on the cover of the offer of the firm, the quotations will not be entertained.
10. Offers may be addressed to :
Resident Engineer [] (Department to be mentioned)
Indian Institute of Technology

डाक प्रमाणित UNDER CERTIFICATION OF POSTING

सेवा में To,

दर सूची आमंत्रण संदर्भ सं. :
NIQ Ref No. :

दर सूची आमंत्रण की तारीख :
NIQ Date :

General Technical requirement for Split Air Conditioner for T E:

1. Air conditioner suitable for 230V, 50 Hz single phase AC supply shall be capable of performing the functions as cooling, dehumidifying, air circulating and filtering. The air conditioners shall be complete with automatic temperature control and cut-in and cutout etc. for temperature ranges 16 to 30 degree C. The differential of the thermostat for cut-in and cut-out shall not be greater than +/- 1.75 degree C. The Air conditioners may either be provided with adjustable step less type mechanical thermostat or electronic thermostat as per IS: 11338: 1985. The ECO friendly air conditioners shall have ECO MARK from Bureau of Indian Standards.
2. Outdoor unit of the air conditioners shall be fitted discharge cooled type rotary compressor operating on Refrigerant R-22 (or non-CFC refrigerant R-410 in case of Eco friendly Split Air Conditioner) with suitably rated capacitor start electric 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 make and shall be covered by manufacturers test certificate and TTC to JISS or ASHRAE.
3. The minimum thickness of the base in outdoor unit shall be 1.20mm & sheet thickness for rest of the body shall be 0.70mm (Min.) with galvanized coating thickness of 120g/sq. m and shall be provided with stiffeners for robust construction and shall have rounded corners. Galvanized sheet shall conform to IS: 277/2003. Steel parts/fronts panel etc. shall have stove-enamelled finish precede by through cleaning of the surface, phosphating and undercoat of anti-corrosive primer paint. Alternate methods of corrosion protection like plastic powder coating, electrostatic paintings shall also be acceptable in lieu of stove-enamelled finish.
4. The casting of the indoor units shall be made ABS/HIPS/GS and shall be impact resistant. The control box of indoor unit shall withstand flame retardant test to Grade V-O as per UL-94. For impact resistance the unit duly packed and dropped from a height of 1m shall show no damage. The filter pads provided shall be washable.
5. Remote cordless control with LCD/LED Display shall be provided with one On/Off timer, selecting fan speed (three speeds) and setting up of temperature. Display shall be provided on indoor unit or on handset or on both.
6. Maximum power consumption of the split air conditioners shall be measured at capacity rating test conditions. Overall power factor of the unit shall be at least 0.85 at capacity rating test conditions.
7. Two samples of each type/model of Air conditioners shall be type **tested for cooling capacity and EER value by psychometric method to IS and rate contract requirements at third party NABL/ BEE accredited Laboratory**. The EER values mentioned in schedule correspond to testing methods adopted in this specification and do not necessarily correlate one to with the values specified by BEE for 3, 4 & 5 star rating certification as mentioned in the Table 2.2 of the Gazette of India notification No. 024(E) dt. 05-01-2010, issued by Central Government of India. Standard evaluation of cooling capacity shall be done by connecting indoor and outdoor units with piping of 5m length with six bends of standard radius. Connecting copper tubing shall have dimensions suitable for the compressors offered with model.

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From pre-page

8. **Servicing:** Free servicing shall be provided for 15 months from the date of dispatch or 12 months from the dates of installation of air conditioner whichever is earlier. Firm is also required to send service engineer at least 3 times during the warranty period.
9. **Warranty:** Warranty shall be provided for 15 months from the date of dispatch or 12 months from the date of installation of air conditioner, whichever is earlier. **The compressor shall have additional warranty of 4 years** (In addition to above warranty of 12/15 months on whole unit.)
10. **Installation:** The installation charges consignee's site shall include the following work:
 - i) Mounting/Fitting indoor and outdoor units at the respective locations.
 - ii) Laying refrigerant piping of 6mtrs length and connecting both the units after drilling hole/holes in the wall, if required. Thickness of the copper tubing shall not be less than 0.70mm.
 - iii) Insulating the suction pipe with expanded polyethylene foam with 5mm thick tubing.
 - iv) Laying 15mm drain pipe 6m length to drain out the condensate water being formed in the indoor unit.
 - v) Leak testing of the entire system.
 - vi) Charging Refrigerant gas in the unit.
 - vii) Suitable electric wiring between indoors and outdoors units. Switches/Socket/Plugs are not included in the scope of supply.



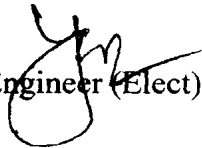
TECHICAL SPECIFICATION FOR AIR-CONDITIONING SYSTEM

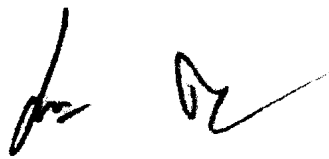
The detailed specification of the 1.5TR/ 2 TR Capacity Split Air-conditioning units are as follows:-

Sr. No	Description of item
1	Supplying of 1.5 TR Split Type Air-Conditioners Compressor Cooling Capacity Nominal (Watt) : 5250 Noise levels (indoor) (Db) Max. : < 50 Min. Star rating : 5 EER (W/W) : ≥ 3.3 Make of Rotary Compressor : Mitsushita/ Hitachi/ Toshiba/ Carrier/ Emerson/ LG/ Tecumseh Sheet Thickness for base (Out door Unit) : 1.20 mm Sheet Thickness for body (Out door Unit) : 0.70 mm Refrigerant : R-22 or refrigerant R-410A
2	Supplying of 2 TR Split Type Air-Conditioners Compressor Cooling Capacity Nominal (Watt) : 7000 Noise levels (indoor) (db) Max. : < 50 Min. Star rating : 5 EER (W/W) : ≥3.3 Make of Rotary Compressor : Mitsushita / Hitachi/ Toshiba/ Carrier/ Emerson/ LG/ Tecumseh Sheet Thickness for base : 1.20 mm Sheet Thickness for body : 0.70 mm Refrigerant : R-22 or refrigerant R-410A
(Note: -1. Quote rates separately for Refrigerant R-22 or other ECO friendly refrigerant.) 2. Annexure – I is the part of the quotation. 3. Technical details are mandatory to be filled in by the bidder in Annexure – II .	

LIST OF APPROVED MAKES OF MATERIALS

Sr. No.	Name of material	Manufacturers/Brand names
1.	Window /split type Air- Conditioner	CARRIER/ BLUESTAR/ LG /SAMSUNG/ HITACHI/ O-GENERAL/ WHIRLPOOL/ GODREJ/ DAIKIN/ VOLTAS/YORK/ ONIDA / GE/ MITSUBISHI ELECTRIC/ TOSHIBA/ PANASONIC.

Executive Engineer (Elect)




D.A. (Works)

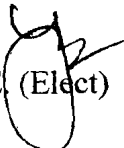
TECHICAL SPECIFICATION FOR AIR-CONDITIONING SYSTEM

The detailed specification of the 1 TR Capacity Split Air-conditioning units and window air-conditioners are as follows:-

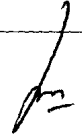
Sr. No	Description of item
1	Supplying of 1 TR Split Type Air-Conditioners Compressor Cooling Capacity Nominal (Watt) : 3500 Noise levels (indoor) (Db) Max. : < 50 Min. Star rating : 5 EER (W/W) : ≥ 3.3 Make of Rotary Compressor : Mitsushita/ Hitachi/ Toshiba/ Carrier/ Emerson/ LG/ Tecumseh Sheet Thickness for base (Out door Unit) : 1.20 mm Sheet Thickness for body (Out door Unit) : 0.70 mm Refrigerant : R-22 or refrigerant R-410A
2	Supplying of 1 TR Window Type Air-Conditioners Compressor Cooling Capacity Nominal (Watt) : 3500 Noise levels (indoor) (db) Max. : < 50 Min. Star rating : 5 EER (W/W) : ≥ 3.1 Make of Rotary Compressor : Mitsushita / Hitachi/ Toshiba/ Carrier/ Emerson/ LG/ Tecumseh Sheet Thickness for base : 1.20 mm Sheet Thickness for body : 0.70 mm Refrigerant : R-22 or refrigerant R-410A (Note: - EER 3.30, 5 Star rated shall be preferred.)
(Note: -1. Quote rates separately for Refrigerant R-22 or other ECO friendly refrigerant.) 2. Annexure – I and III are the part of the quotation. 3. Technical details are mandatory to be filled in by the bidder in Annexure – II & IV.	

LIST OF APPROVED MAKES OF MATERIALS

Sr. No.	Name of material	Manufacturers/Brand names
1.	Window /split type Air- Conditioner	CARRIER/ BLUESTAR/ LG /SAMSUNG/ HITACHI/ O-GENERAL/ WHIRLPOOL/ GODREJ/ DAIKIN/ VOLTAS/YORK/ ONIDA / GE/ MITSUBISHI ELECTRIC/ TOSHIBA/ PANASONIC.


E.E. (Elect)


D.A. (Works)


Sr. F/M (Elect)

ANNEXURE - II

Split Type Air Conditioner fitted with Rotary Compressor

Split type air conditioners conforming to IS: 1391 (Part-2)-1992 with amdots No.1 to 4 fitted with rotary compressor using HCFC refrigerant (R-22 or R-410 A) suitable for wall mounting.

Following details will fill by vendors/ Bidders for Split Air Conditioner of 1.5 TR and 2.0 TR

- 1.1 Name of the manufacturer
- 2.1 Model No.
- 3.1 Overall dimensions of Room unit (wall mounted) L x W x H (in mm)
- 4.1 Overall dimensions of outdoor unit L x W x H (in mm)
- 5.1 Name of the compressor manufacturer
 - (a) Model of compressor
 - (b) Capacity of Compressor at rated test conditions as per IS: 10617 (Part-1): 1983 (Reaffirmed 2001) incorporating amend no 1 to 3 _____ Watt.
 - © Rating of Compressor Motor _____ kW
- 6.1 (a) Net dehumidification effect at high speed as per C1.8.1 of ISS _____ W
 (b) Net sensible cooling at high speed as per C1.8.1 of ISS _____ m³/hr
- 7.1 Fan motor (outdoor unit)
 - (a) Maximum input of fan motor (outdoor unit) _____ Amp/watt
 - (b) Type of Fan motor (outdoor unit) to IS: 996:1979 with amdots. No. 1, 2 & 3
 - © What is the speed of Fan motor (outdoor unit) _____ rpm?
- 7.2 (a) Power factor of the fan motor (outdoor unit) _____
 (a) Air delivery of Condenser fan at full speed at rated voltage _____ m³/hr
- 8.1 CONDENSER:
 - (a) Face area of condenser _____ sq.m
 - (b) Make of Condenser
 - © Tube material of condenser. CD, and thickness in mm) _____
 - (d) Number of rows (condenser) _____
- 8.2 (a) Number of tubes per row (condenser) _____
 (b) Fin material and thickness (condenser) _____
 (c) No. of fins per cm (condenser) _____
 (d) External surface area excluding fins (condenser) _____ m²
- 9.1 Room discharge airflow at full speed at rated voltage _____ m³/hr
- 10.1 EVAPORATOR COIL :
 - (a) Tube material, O.D. & thickness of Evaporative coil
 - (b) Number of rows of Evaporative coil. _____
 - © Make of Evaporative coil
 - (d) No. of tubes per row - _____ Nos

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- 10.2 (a) Fin material and thickness of Evaporative coil. _____
(b) No. of fins per cm (Evaporative coil) _____
(c) Length of tubes excluding bends (Evaporative coil) _____
(d) External surface area including fins (Evaporative coil) _____ m²

- 11.1 Filter
(a) Type /Make/material of Filter _____
(b) Area of Filter _____ m²
(c) Thickness in mm. _____
(d) Whether slip on type filter provided - Yes/ No

- 12.1 Drip tray
(a) Thickness of sheet of Drip tray. _____ mm
(b) Material of Drip tray _____
(c) Depth of Drip tray. _____ mm

- 13.1 Acoustics material
(a) Thickness of Acoustics material. _____ mm
(b) Material and specification of acoustics material _____
(c) Trade name of Acoustics material _____

- 14.1 Refrigerant name
(a) Weight of the refrigerant charged into the unit. _____ gms

- 15.1 Blower motor
(a) Make of Blower motor _____
(b) Make of Fan propeller/blower _____
(c) Maximum input of fan motor (Indoor unit) _____ Amp/watt
(d) Type of Fan motor (Indoor unit) to IS: 996:1979 with amdts. No.1, 2 & 3.

- 15.2 (a) Does Fan motor (Indoor unit) have 3 speeds? If yes what are the speeds. _____ rpm
(b) Power factor of the fan motor (Indoor unit) _____

- 16.1 Make of relay _____

- 17.1 Make of Thermostat with differential details _____

- 18.1 Are the manufacturer's instructions and operation service, installation manual provided? Yes/No

