

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/ 736	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 (.....) संस्थान में विम्वलित सामग्री की आपूर्ति हेतु प्रामाणिक/कर्मों/व्यापारियों से मोहरबद्ध/दर सूची आमंत्रित करते हैं।
Resident Engineer (.....) Invites sealed quotations from the genuine firms / dealers for the material given below required at this Institute : -

विषय / Sub E.E.(E) Procurement of window Type/split Type AC. as per details given below

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.	23,000
2	SUPPLY OF 2.0 TR SPLIT TYPE AIR-CONDITIONERS THREE ^{FIVE} STAR RATING	no.	21,000
3	SUPPLY OF 1.0 TR SPLIT TYPE AIR-CONDITIONER FIVE STAR RATING	no.	65,000
4	SUPPLY OF 1.0 TR WINDOW TYPE AIR-CONDITIONER, FIVE STAR RATING	nos	65,000

1. Rates are inclusive of all taxes. 2. Specifications as per enclosed with N.I.Q. Enclosed. (Annexure I to Annexure IV)

Note : Payment within 30 days after delivery of submission of bill. E. Money in favour of I.I.T Delhi for Rs 93,000/- may not be submitted alongwith quotation in the shape of DD/PO/Bankers cheque.

Office of Sr. Foreman (N/Q) Dispatch No. 669 Dated 21/2/2012

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

बयाना राशि : Earnest Money : Rs. 93,000/- in favour of I.I.T Delhi

दर सूची खोलने की नियत तारीख को अपराह्न 2.30 बजे तक दर सूचियां प्राप्त की जाएंगी तथा 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 [] सहायक कुलसचिव (लेखा)/उप कुलसचिव (लेखा)
स्थानिक अभियन्ता (.....) तथा संस्थान अभियन्ता
To: All the firms enlisted with us

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

निबन्धन एवं शर्तें TERMS & CONDITIONS

- (1) बिक्री कर :
- (क) फर्म को बिक्री कर प्राधिकरण में पंजीकृत होना चाहिए ।
(ख) लिखिए : (i) बिक्री कर पंजीकरण संख्या ।
(ii) विषयगत मद / मदों के लिए बिक्री कर का प्रतिशत ।
- (2) बयाना राशि :
- (क) भारतीय रिजर्व बैंक द्वारा प्रत्याभूत अनुसूचित बैंक की मांग प्राप्ति 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 संस्था 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 डकाई में ही दरे लिखे ।
(5) शर्तबन्ध दर सूची स्वीकार्य नहीं होगी । छूट (यदि कोई हो) देकर शुद्ध 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 withdrawal 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 assigning 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. :

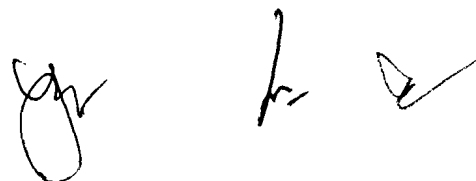
दर सूची आमंत्रण की तारीख :
NIQ Date :

ANNEXURE - 1

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 preceded 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.

Continued on next page....



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. Warrantee: Warrantee 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 warrantee of 4 years** (In addition to above warrantee 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.

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TECHICAL SPECIFICATION FOR AIR-CONDITIONING SYSTEM

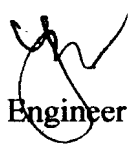
The **detailed** specification of the 1.5TR/ 2 TR Capacity Split Air-conditioning units are as follows:-

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 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.

Executive Engineer (Elect)




D.A. Wor

TECHICAL SPECIFICATION FOR AIR-CONDITIONING SYSTEM

The detailed specification of the 1 TR Capacity Split Air-conditioning units and window air-conditioners at 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)

Split Type Air Conditioner fitted with Rotary Compressor

Split type air conditioners conforming to IS: 1391 (Part-2)-1992 with amdts 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 1.0 TR, 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 amdts. 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

Continued on next page....

- 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
© 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 _____
© Depth of Drip tray. _____ mm

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

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General Technical requirement for Window Air Conditioner for T E:

Air conditioner (AC) shall perform the functions of cooling, dehumidifying, air circulating and air filtering and shall be suitable for operation on 230V, 50 Hz single phase AC supply.

The air conditioner shall be fitted with hermetically sealed discharge cooled type rotary compressor operating on refrigerant R-22 or R-410A run by suitably rated capacitor start electric motor. It shall be equipped with overload protection and shall be mounted on resilient mountings for quiet operation. Rotary compressor shall be of Matsushita/Hitachi/ Toshiba/ Carrier/Emerson/LG/ Tecumseh make and shall be supported by manufacturers test certificate and TTC to JISS or ASHRAE. **Additional warrantee of four years on compressors** shall be given.

The air conditioner shall be complete with automatic temperature control and cut-in and cut-out etc. for temperature range 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 overall power factor of the units shall be 0.9 at capacity rating test conditions.

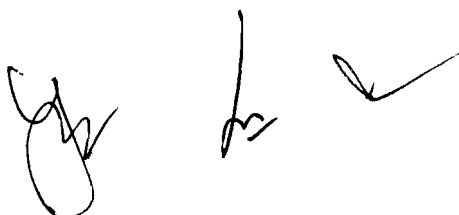
Remote cordless control with LCD/LED Display shall be provided with one On/Off timer, selecting fan speed (three speeds) and setting up of temperature. Display shall be provided on unit or on handset or on both.

Cabinet shall be manufactured from a minimum sheet thickness 1.20mm for base and 0.70 mm for the rest with galvanized coating of 120 gsm. The galvanized steel sheets shall conform to IS 277 : 2003 (Re-affirmed 2007). The sheets shall be stove enameled or powder-coated. In both cases sheets shall be degreased, phosphate and provided with primer coat. The air filters provided shall be of cleanable type and synthetic made.

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 are not necessarily equivalent to the values specified by BEE for 3 & 4 star rating certification as mentioned in the Table 2.1 of the Gazette of India notification No. 181 (E) dated 12.1.2009, issued by Central Government of India.

SERVICING: Free service shall be provided by the supplier during the warranty period for a period of 15 months from the date of dispatch or 12 months from the date of installation of air conditioner whichever is earlier. Even in case of no complaint, at least three visits of the service engineer are required to be made during the warranty period for routine servicing.

WARANTEE: Warrantee 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 warrantee or 4 years** (In addition to above warrantee of 12/15 months on whole unit.)



Window Air Conditioner Unitary Type fitted with Rotary Compressor

Technical Specifications:

Window mounted unitary Room Air Conditioners with remote fitted with rotary compressor to JISS or ASHARE standard and confirming to IS: 1391 (part-1): 1992 (Reaffirmed 2004) with amdts. 1 to 4 with additional parameters as given under General Technical Requirements.

Following details will fill by vendors/ Bidders for Window Air Conditioner of 1.0 TR

- 1.1 Name of the manufacturer
- 1.2 Make & model of Unit
- 2.1 Overall dimensions of : (L X W X H in mm)
 - a. Unit
 - b. Front Panel
- 3.1 Details of Cabinet:
 - a. Material
 - b. Thickness
 - c. Surface treatment
 - d. Type of Finish
- 4.1 Details of Compressor
 - a. Name of the Manufacturer
 - b. Model
 - c. Starting method
 - d. Capacity of Compressor
 - e. Rating of compressor motor. _____ kW
 - f. Max. Full load current of Compressor at rated Voltage at IS rated test conditions
- 4.2
 - a. Warranty of Compressor (In years)
 - b. Speed of Compressor
- 5.1 Rating of unit at Capacity rating test conditions as per Clause 9.1 of IS: 1391 (Part-1) 1992 (Reaffirmed 2004) with Amdts I to 4
 - a. Max. Current drawn. _____
 - b. Power factor of the unit. _____
 - c. Minimum sensible cooling capacity at high speed. _____
- 5.2
 - a. Min. dehumidification effect at high speed _____ K.cal./hr
 - b. Exhaust air quantity _____ m³/hr
 - c. Ventilation air quantity
- 6.1 Are all testing facilities available as per IS: 1391 (Part-1)/1992 (Reaffirmed 2004) with Amdts. 1 to 4 to testing the cooling capacity and Noise level as guaranteed under CI. 5 as above – Yes/No
- 7.1 Details of Blower/Condenser fan Motor:
 - a. Max. Input of motor: _____ Amp/watt
 - b. Type of motor to IS: 996:1999(Amdts. No.-1 to 3):
 - c. Does motor have dual speed, if yes what are the speeds/rpm? _____
 - d. Type/Make /model of motor :
 - e. Material of Blower

Continued on next page....

7.2 Air delivery of condenser fan at full speed at rated voltage _____ m³/hr

8.1 PARTICULARS OF CONDENSER:

- a. Make/model
- b. Face area
- c. Tube material, OD, thickness
- d. Number of rows
- e. Number of holes per row
- f. Fin material & thickness
- g. No. of fins per cm
- h. Type of Coil whether grooved type: Yes / No

9.1 PARTICULARS OF EVAPORATOR COIL :

- a. Make/Model/Type
- b. Face area
- c. Material, OD, thickness
- d. Number of rows
- e. Number of holes per row
- f. Fin material & thickness
- g. No. of fins per cm
- h. Type of Coil whether grooved type. YES / NO

10.1 DETAIL OF FILTER :

- a. Type
- b. Material
- c. Area (Sq. m)
- d. Thickness

11.1 Particulars of Drip Tray:

- a. Thickness of sheet _____ mm
- b. Material
- c. Depth _____ mm

12.1 Size of Water Tank for dry climate zone & details of device for spraying water on condenser fan (mm) _____

13.1 Thermostat :

- a. Make & Model
- b. Specification for electronic Thermostat
- c. Type Test Certificate of Makers
- d. Temperature differential

14.1 Name of the refrigerant charged to compressor

- a. Weight of the refrigerant charged into the unit. _____ gms

15.1 a. Gross area of supply air grill _____ sq.cm

- b. Nett area of supply air grill _____ sq. cm

Continued on next page....



From pre-page

- 16.1 a. Thickness of acoustic material.
- b. Material and specification of acoustic material.

17.1 Make of relay

18.1 Are manufacturer's instructions and operating service, installation manual provided? Yes /No.

19.1. Technical deviations, if any, from TE specification be brought out separately.

