

# डाक प्रमाणित UNDER CERTIFICATE OF POSTING

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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/ NIQ No.- 770 IITD/IE/EE (E)/AC/2013/	द.आ.सू. तारीख NIQ DATE 04/02/2013	दर सूची खोलने की तारीख OPENING DATE OF NIQ 01/03/2013
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कार्यपालक अभियन्ता (.....) संस्थान में निम्नलिखित सामग्री की आपूर्ति हेतु प्रामाणिक फर्मों/व्यापारियों से मोहरबन्द दर सूची आमन्त्रित करते हैं  
Executive Engineer (.....) Invites sealed quotations from the genuine firms / dealers for the material given below required at this Institute :-  
Replacement of 15 years or more old inefficient Air-Conditioners and procurement of 1 TR WTAC

विषय / Subject: faculty and Group-A officers at IITD.

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.	Nos	230
2.	Supply of 1.0 TR Window type Air-Conditioners Five-star rating.	Nos	100

(Specifications as enclosed with NIQ – Annexure –I to Annexure - IV)

### TERMS AND CONDITIONS

1. Rates are inclusive of all taxes.
2. Payment after delivery.
3. F.O.R. IIT, Delhi.
4. Earnest money in the shape of PO/BC/DD in favour of Registrar, IIT, Delhi for Rs 2, 23,990/- only shall be submitted along with quotations.
5. Quotations shall be submitted duly completed in two separate envelopes. One for Part-I, Technical and commercial bid and second Part-II, price bid. Both the bids shall be submitted together on or before the due date and time. The name of firm, date of opening bids, Technical bid and Price bid shall clearly be super scribed on the respective envelope.
6. The Price bid of only those bidders shall be opened whose technical bids are in line with specifications of the technical bid of Quotations.
7. Date of submission of bids: - 28/2/2013 up to 03.00 P.M.
8. Date of opening Technical bid: - 01/03/2013 at 03.00 P.M.

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

बयाना राशि :

Earnest Money : Rs 2,23,990/= only.

दर सूची खोलने की नियत तारीख को अपराहन 2.30 बजे तक दर सूचियां प्राप्त की जाएंगी तथा उसी दिन अपराहन 3.00 बजे दर सूचियां खोली जाएंगी। दर सूची प्राप्त करने की नियत तारीख को अपराहन 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 सत्रीबद्ध सभी फर्मों  
सहायक कार्यपाल अभियन्ता [ ] सहायक कुलसचिव (लेखा)/उप कुलसचिव (लेखा)  
कार्यपाल अभियन्ता (.....) तथा संस्थान अभियन्ता

To: All the firms enlisted with us

अधीक्षक, निर्माण Superintendent Works  
भारतीय प्रौद्योगिकी संस्थान  
INDIAN INSTITUTE OF TECHNOLOGY

**PART-I TECHNICAL CUM COMMERCIAL BID**

**INDIAN INSTITUTE OF TECHNOLOGY: DELHI  
HAUZ KHAS, NEW DELHI – 110016**

**Name of work:** - Replacement of 15 years or more old inefficient air-conditioners and procurement of 1 TR WTAC for faculty and Group - A officers at IITD.

**Ch. To.** PLN-05

**DESIGN PARAMETERS**

Window / Split Type Air-Conditioners.

Sr No	Description of work		
1	<b>Supplying of 1.0 TR Window Type Air-Conditioners</b> Compressor Cooling Capacity Nominal (Watt) : 3500 Noise levels (Db) Max. : <50 Min. Star rating : 5 EER (W/W) : $\geq 3.3$ Make of Rotary Compressor : Hitachi/Carrier/Emerson/Tecumseh Sheet thickness for base : 1.20 mm Sheet thickness for body : 0.70 mm Refrigerant : R-22 or R-410A	<b>Fill the technical specifications as per Annexure-I</b>	<b>Conditions as per Annexure-II</b>
2	<b>Supplying of 1.5 TR Split Type Air-Conditioners</b> Compressor Cooling Capacity Nominal (Watt) : 5250 Noise levels (indoor) (Db) Max. : < 50 Min. Star rating : 5 EER (W/W) : $\geq 3.3$ Make of Rotary Compressor: Hitachi/Carrier/Emerson/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 R-410A	<b>Fill the technical specifications as per Annexure- III</b>	<b>Conditions as per Annexure-IV</b>
<b>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- I &amp; III</b>			
<b>List of approved makes</b>			
<b>Name of material</b>	<b>Manufacturers/ Brand names</b>		
Window /Split Type Air-conditioners	CARRIER/ BLUE STAR/ LG/ SAMSUNG/ HITACHI/ TECUMSEH/ O-GENERAL/ WHIRLPOOL/ GODREJ/ DAIKIN/ VOLTAS/ YORK/ ONIDA/ GE/ MITSUBISHI ELECTRIC/ TOSHIBA/ PANASONIC.		

**1. 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 amdots. 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 \_\_\_\_\_ M<sup>3</sup>/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:
- Max. Input of motor: \_\_\_\_\_ Amp/watt
  - Type of motor to IS: 996:1999(Amdts. No.-1 to 3):
  - Does motor have dual speed, if yes what are the speeds/rpm? \_\_\_\_\_
  - Type/Make /model of motor :
  - Material of Blower
- 7.2 Air delivery of condenser fan at full speed at rated voltage \_\_\_\_\_ M<sup>3</sup>/hr
- 8.1 PARTICULARS OF CONDENSER:
- Make/model
  - Face area
  - Tube material, OD, thickness
  - Number of rows
  - Number of holes per row
  - Fin material & thickness
  - No. of fins per cm
  - Type of Coil whether grooved type: Yes / No
- 9.1 PARTICULARS OF EVAPORATOR COIL :
- Make/Model/Type
  - Face area
  - Material, OD, thickness
  - Number of rows
  - Number of holes per row
  - Fin material & thickness
  - No. of fins per cm
  - Type of Coil whether grooved type. YES / NO
- 10.1 DETAIL OF FILTER :
- Type
  - Material
  - Area (Sq. m)
  - Thickness
- 11.1 Particulars of Drip Tray:
- Thickness of sheet \_\_\_\_\_ mm
  - Material
  - 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 :
- Make & Model
  - Specification for electronic Thermostat
  - Type Test Certificate of Makers
  - Temperature differential
- 14.1 Name of the refrigerant charged to compressor
- 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

- 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.

**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.)